CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

April 16, 2004
184288.03.AF.DA

Mr. William Pfanner
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

RE: Data Adequacy Supplement
San Francisco Electric Reliability Project (04-AFC-1)

On behalf of the City and County of San Francisco, please find attached 75 hard copies and one original of the Data Adequacy Supplement prepared in response to data adequacy requests received from the CEC staff. In addition we are providing five copies of the following attachments:

- Attachment WM-DA-1, the Phase I Environmental Site Assessment
- Attachment WR-DA-1 containing:
  - City and County of San Francisco's Waste Discharge Requirements
  - San Francisco Department of Public Works Order No. 158170
  - Article 4.1 of the San Francisco Public Works Code

Fifty CD-ROMs containing both the complete AFC and the Data Adequacy Supplement (including the two attachments) are also being provided.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Program Manager

c: Julie Labonte/SFPUC
Ralph Hollenbacher/SFPUC
Jeanne Solé/SF

# SAN FRANCISCO ELECTRIC RELIABILITY PROJECT DATA ADEQUACY SUPPLEMENT (04-AFC-1)

Submitted by:

**City and County of San Francisco**

April 16, 2004

CH2MHILL

2485 Natomas Park Drive, Suite 600
Sacramento, California 95833-2937

# Contents

# Section 1.0 Introduction

The City and County of San Francisco (City or CCSF) submitted an Application for Certification (AFC) for the San Francisco Electric Reliability Project (SFERP) to the California Energy Commission (CEC) for a nominal 145-megawatt (MW) simple-cycle natural gas-fired power plant on March 18, 2004. Between the time of filing and April 14, 2004, when the CEC Executive Director issued a letter recommending the AFC be declared data adequate, additional information was requested by the CEC Staff. This document responds to the Commission staff's request for additional data. The responses are submitted based on the technical disciplines identified by the CEC and are in response to those items identified in the draft Data Adequacy Worksheets provided by the Staff.

# Section 2.0 Data Adequacy Responses

As stated above, the City is providing the additional data required for a data adequacy determination by the Commission based on the draft Data Adequacy Worksheets provided by CEC Staff.

# Section 2.1 Air Quality

**Data Adequacy Deficiency –** Please provide specific source of emission reduction credits (ERC) that would be used to mitigate the project emission impacts. Appendix B (g) (1).

**Data Adequacy Response –** As discussed on p. 8.1-49 of the AFC, the SFPUC is in negotiations with owners of oxides of nitrogen (NOx) and precursor organic compounds (POC) ERCs within the City of San Francisco to purchase ERCs for the project. The specific source of ERCs to be used to provide the NOx offsets required under BAAQMD rules has not yet been determined, but the potential sources of the ERCs for the project are shown in the AFC at Table 8.1F-1, Appendix 8.1F. The applicant has committed to provide sufficient ERCs to mitigate both NOx and POC emissions from the project, even though the project's POC emissions are below the District's offset threshold (see Table 8.1-32 of the AFC). The applicant also commits to providing the specific source of the ERCs to be used for the project as soon as possible, but not later than October 7, 2004, the date when the Preliminary Determination of Compliance is expected to be issued.

The applicant is working with the community and other interested parties to develop mitigation programs for $PM_{10}$ emissions for the SFERP. The applicant commits to keeping the CEC staff informed regarding the mitigation programs under development.

**Data Adequacy Deficiency –** Alternatively, please provide a copy of the District's written "Completeness Determination." Appendix B(g)(1).

**Data Adequacy Response –** The BAAQMD issued its completeness determination for the project on Wednesday, April 7. A copy of the BAAQMD's completeness letter is attached.

**Data Adequacy Deficiency –** Please provide a Compliance Certification form.

**Data Adequacy Response –** BAAQMD Rule 2-2-307 requires a certification of compliance only for major sources of emissions. Since the SFERP's emissions will be limited to less than 100 tons per year of all air pollutants, the facility will not be a major source of emissions and BAAQMD Rule 2-2-307 does not apply.

**Data Adequacy Deficiency –** Please provide a treated water analysis showing the TDS content of the cooling tower recirculation water. Appendix B (g)(8)(D).

**Data Adequacy Response –** Because the on-site water treatment facility has not yet been constructed, no recycled water is yet available for analysis. However, the applicant has performed an engineering analysis that indicates that the recycled water will have a maximum TDS content of 400 ug/L. The maximum TDS in the cooling tower circulating water was determined by assuming 5 cycles of concentration. The engineering analysis in Table 8.1-34 below, shows the expected TDS content for the recycled water. SFERP commits to keeping the TDS of the cooling tower circulating water at or below 2,000 ug/L and will either control the TDS of the recycled water or reduce the cycles of concentration, as necessary, to maintain TDS at or below this level.

**Table 8.1-34**
SFERP Estimated Recycled Water Quality

| Constituent | Reason for Inclusion of Parameter | Recycled Water (mg/L except as noted) |
|---|---|---|
| 4,4 DDE | NPDES, TMDL | 0.003 µg/L |
| Alkalinity-Bicarbonate | PP Process | - |
| Alkalinity-Total | PP Process | 185 |
| Aluminum | N/A | - |
| Ammonia | N/A | <5 |
| Arsenic | NPDES | 2.0 µg/L |
| Barium | NPDES | - |
| Biological Oxygen Demand | NPDES | <10 |
| Boron | N/A | - |
| Cadmium | NPDES & Title 22 | 0.3 µg/L |
| Chemical Oxygen Demand | N/A | <50 |
| Chloride | PP Process | 150 |
| Chromium | NPDES | 1.3 µg/L |
| Copper | NPDES | 14.6 µg/L |
| Dieldrin | TMDL | 0.002 µg/L |
| Dissolved sulfides | PP Process | - |
| Fluoride | N/A | - |
| Hardness-Calcium | PP Process | - |
| Hardness-Magnesium | PP Process | - |
| Hardness-Total | PP Process | - |
| Hydrocarbon oil and grease | Class I Permit | <5 |
| Iron | N/A | - |
| Lead | NPDES | 2.5 µg/L |
| Manganese | N/A | - |
| Mercury | NPDES, Title 22, TMDL | 0.02 µg/L |
| Molybdenum | N/A | - |
| Nickel | NPDES | 3.9 µg/L |
| Nitrate Nitrogen | N/A | 15 |
| pH, pH units | NPDES & Class I Permit | 6.0 - 9.0 |
| Polynuclear aromatic hydrocarbons (PAHs) | NPDES, TMDL | 0.16 µg/L |
| Polychlorinated biphenyls | Title 22 | 0.10 µg/L |
| Potassium | N/A | - |
| Selenium | NPDES, Title 22 | 0.5 µg/L |

**Table 8.1-34**
SFERP Estimated Recycled Water Quality

| Constituent | Reason for Inclusion of Parameter | Recycled Water (mg/L except as noted) |
|---|---|---|
| Silica | PP Process | 13 |
| Silver | NPDES | 1.0 µg/L |
| Sodium | PP Process | - |
| Specific Conductance, umhos/cm | PP Process | - |
| Sulfate | PP Process | 120 |
| Total Dissolved Solids | PP Process | 400 |
| Total recoverable oil and grease | NPDES | <5 |
| Total Suspended Solids | NPDES | <3 |
| Turbidity, NTU | N/A | 0.2 |
| Zinc | NPDES | 61.8 µg/L |
| Temperature | N/A | 20 °C |

**Data Adequacy Deficiency –** Please provide an additional detailed description of the onsite water treatment facility. Appendix B (g)(8)(D).

**Data Adequacy Response –** A description of the onsite water treatment process is provided in Section 2.2.7.3 of the AFC. Additional details are provided in the data adequacy responses for Water Resources.

**Data Adequacy Deficiency –** Please provide an assessment of whether the onsite water treatment equipment would result in air contaminants. Appendix B (g)(8)(D).

**Data Adequacy Response –** The only potential air contaminants from the water treatment process would be odorous compounds. As described in Section 2.2.7.3 of the AFC, equipment open to the atmosphere will be vented through an activated carbon collection system to control odors.

**Data Adequacy Deficiency –** Please provide a schedule indicating when permits outside the authority of the commission will be obtained. Appendix B (h)(4).

**Data Adequacy Response –** As emissions from the SFERP will be below 250 tons per year, the project is not subject to PSD review and no permit from USEPA is required. The only other air quality-related permit applicable to the project would be issued by the BAAQMD. The BAAQMD is expected to issue its Preliminary Determination of Compliance on or about October 7, 2004, 180 days after the application was accepted as complete. The Final Determination of Compliance is expected to be issued on or about December 7, approximately 240 days after the application was accepted as complete.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT



April 7, 2004

Mr. Bill Pfanner
Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento CA 95814

Dear Mr. Pfanner

This is to inform you that we have completed our initial review of the Application for Certification (AFC) for the San Francisco Electric Reliability project (Docket Number 04-AFC-1). In accordance with the requirements of Bay Area Air Quality Management District Regulation 2-3-402, we have determined that the AFC contains sufficient information for the District to undertake a Determination of Compliance review. Pursuant to BAAQMD Regulation 2-3-403, the District will issue a Preliminary Determination of Compliance (PDOC) within 180 days of the date of this letter.

If you have any questions, please contact me at (415) 749-4679 or bnishimura@baaqmd.gov.

Very truly yours,

Bob Nishimura
Supervising Air Quality Engineer
Engineering Division

cc: Julie Labonte, Program Manager, Infrastructure Development
Nancy Matthews, Sierra Research

# Section 2.2 Biological Resources

**Data Adequacy Deficiency –** Need to provide the list of species seen during biological resources field surveys completed November 19, 2003. Appendix B(g)(13)(B).

**Data Adequacy Response –** A list of species observed is provided below as Table 8.2-4.

**TABLE 8.2-4**
Wildlife Species Observed During the Biological Reconnaissance Visit of the SFERP Project Area (November 19, 2003)

| Common Name | Scientific Name | Sign |
|---|---|---|
| **Birds** | | |
| Western gulls | *Larus occidentalis* | Observation |
| Rock dove | *Columba livia* | Observation |
| Yellow-rumped warbler | *Dendroica coronata* | Observation |
| House sparrow | *Passer domesticus* | Observation |
| **Mammals** | | |
| Domestic cat | *Felis domesticus* | Tracks |
| Domestic dog | *Canis familiaris* | Tracks |

# Section 2.3 Cultural Resources

**Data Adequacy Deficiency –** Please provide a map in which the project site and related facilities are located at a scale of 1:24,000 indicating areas of ethnographic occupation. Appendix B(g)(1).

**Data Adequacy Response –** A map indicating areas of ethnographic occupation is provided as Figure 8.3-2, Areas of Ethnographic Occupation in the Vicinity of SFERP.

**Data Adequacy Deficiency –** Please provide in Table 8.3-1 the reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed. Appendix B(h)(1)(A).

**Data Adequacy Response –** A revised Table 8.3-1 is provided below (as Table 8.3-1R) which includes both the page numbers and subsections that explain conformance for each law or standard.

**TABLE 8.3-1R**
Applicable Cultural Resource Laws, Ordinances, Regulations, and Standards

| LORS | Requirements | Applicability | AFC Subsection Explaining Conformance |
|---|---|---|---|
| National Historic Preservation Act, Section 106 | Requires federal agencies to take into account the effects of their undertakings on cultural resources | No | Subsections 8.3.2.1 (p. 8.3-2) and 8.3.4.1 (p. 8.3-16) |
| Executive Order 11593 | Orders protection and enhancement of the cultural environment | No | Subsection 8.3.2.1 (p. 8.3-2) |
| American Indian Religious Freedom Act | Protects Native American religious practices, ethnic heritage sites and land uses | No | Subsection 8.3.2.1 (p. 8.3-2) |
| California Public Resources Code Section 5024.1 | Establishes California Register of Historical Resources | Yes | Subsection 8.3.2.2.1 (p. 8.3-5) |
| California Public Resources Code Section 5097.5/5097.9 | Prohibits causing severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require. | Yes | Subsections 8.3.2.2 (p. 8.3-2) and 8.3.2.2.1 (p. 8.3-6) |
| California Public Resources Code Section 5097.98/5097.99 | Requires notification to most likely descendants in the event a Native American grave is encountered. Imposes penalties for obtaining or possessing Native American human remains or artifacts. | Yes, if burials are discovered | Subsections 8.3.2.2 (p. 8.3-5) and 8.3.2.2.1 (p. 8.3-6) |

**TABLE 8.3-1R**
Applicable Cultural Resource Laws, Ordinances, Regulations, and Standards

| LORS | Requirements | Applicability | AFC Subsection Explaining Conformance |
|---|---|---|---|
| California Public Resources Code Section 21083.2 | Provides that if a lead agency determines that project has significant effect on "unique" archaeological resources the environmental impact report must address those issues. | Yes | Subsections 8.3.2.2 (p. 8.3-4), 8.3.2.2.1 (p. 8.3-6), and 8.3.4.1 (p. 8.3-16) |
| California Public Resources Code Section 21084.1 | Equates a significant effect on the environment with a substantial adverse change in significance of a historic resource | Yes | Subsections 8.3.2.2 (p. 8.3-4) and 8.3.2.2.1 (pp. 8.3-5 through 8.3-6) |
| California Administrative Code, Title 14 Section 4307 | Prohibits destruction of paleontological, archaeological and historical objects | Yes | Subsection 8.3.2.2 (p. 8.3-4) |
| CEQA Guidelines, Title 14 Code of Regulations Section 15126.4(b) | Discusses mitigation measures related to historical resources | Yes | Subsection 8.3.2.2 (p. 8.3-4) |
| CEQA Guidelines, Title 14 Code of Regulations Section 15064.5 | Defines "historical resources", determines significance of impacts to archaeological and historical resources | Yes | Subsections 8.3.2.2 (p. 8.3-4) and 8.3.4.1 (p. 8.3-17) |
| CEQA Guidelines, Title 14 Code of Regulations Section 15064.7 | Defines "cumulatively significant", describes "thresholds of significance" | Yes | Subsection 8.3-2.2 (p. 8.3-5) |
| California Penal Code, Section 622.5 | Makes it a misdemeanor to willfully damage objects or things of archaeological or historical interest | Yes | Subsection 8.3.2.2 (p. 8.3-5) |
| California Health and Safety Code, Section 7050.5 | Requires that in the event of discovery of human remains, all excavation must cease until the coroner of the relevant county makes certain findings | Yes, if burials are discovered | Subsections 8.3.2.2 (p. 8.3-5) and 8.3.2.2.1 (p. 8.3-6) |
| San Francisco Building Code, Chapters 16B and 16C | Requires owners to undertake structural analysis of each unreinforced masonry wall; and to undertake alterations to conform to code or to demolish the structure | Yes | Subsections 8.3.2.3.1 (p. 8.3-6) and 8.3.3.5.2 (p. 8.3-15) |
| San Francisco Planning Code, Article 10 | Provides for the designation of landmarks and historic districts, and recognition of structures of historic, architectural and aesthetic merit | Yes, if properties are initiated for land mark designation | Subsection 8.3.5 (p. 8.3-20) |

**Data Adequacy Deficiency –** Please reference the building codes that will affect cultural resources, the manner in which the resources will be affected, the process that the City uses for the building process, and the schedule for the permit process. Appendix B(h)(4).

**Data Adequacy Response –** As explained in Subsection 8.3 of the AFC, there are three older buildings that would be affected by the SFERP: the Meter House, the Compressor House and Station A. During hearings regarding Potrero Unit 7, all witnesses addressing cultural resources, including CEC Staff, agreed that the Meter House and the Compressor House meet the criteria for listing in the California Register of Historical Resources (CRHR) and should be considered historic resources under CEQA. With regards to Station A, there was conflicting testimony. (See AFC, page 8.3-14.)

The SFERP will require demolition of both the Compressor House and Station A. The City intends to rehabilitate the Meter House for use as an administration/control room.

In the absence of permitting through the CEC process, demolition of the Compressor House and Station A would ordinarily require a demolition permit from the City's Department of Building Inspections (DBI).[1] For buildings that qualify as Cultural Resources under CEQA, a CEQA assessment would be required and would be undertaken by the City Department of Planning prior to issuance of a demolition permit by DBI. During the CEQA process, the Planning Department would solicit input from the Landmarks Board, which would likely schedule a hearing for the Board to formulate their comment letter to the Planning Department as an interested party.[2]

Rehabilitation of the Meter House would also ordinarily require a permit from DBI.[3] The rehabilitation would be covered by the City Building Code and, to the extent the Meter House qualifies, by the State Historic Building Code. As in the case of a demolition permit, to the extent the Meter House qualifies as a Cultural Resource under CEQA, DBI would rely on the Planning Department to address compliance with CEQA prior to issuance of a permit. In its CEQA assessment, the Planning Department would consider the Secretary of Interior's *Standards for Treatment of Historic Properties*; generally renovations that comply with the Secretary of Interior's Standards do not create significant impacts under CEQA. See CEQA Guidelines § 15064.5(b)(3). If an EIR is required, the Landmarks Board can provide input through the comment process.

If Article 10 applies, the Landmarks Board will review the project. As is explained on page 8.3-6 of the AFC, the San Francisco Planning Code Article 10 encourages historic preservation in the case of permits for the alteration or demolition of buildings that are:

---

[1] The proposed site is currently owned by Mirant; the City is in negotiations with Mirant to obtain an option to purchase the property. Responsibility for demolition of existing buildings has been a topic of discussion in the negotiations since provisions of the Building Code that address Unreinforced Masonry Buildings require that all such buildings be structurally altered or demolished. Depending on the outcome of the negotiations and timing, Mirant may be required to comply with the Unreinforced Masonry Buildings provisions of the City Building Code before the City purchases the property and commences construction of the SFERP. Further, under certain circumstances, the SFPUC may not have to obtain City permits for certain activities authorized under the Charter but it would be required to meet all the applicable requirements for permitting.

[2] It has been the practice of the Planning Department to coordinate issuance of demolition permits with permitting of the project that makes demolition necessary. In this manner, the City avoids demolition of buildings in cases where the project that made the demolition necessary does not in fact go forward.

[3] The same caveats as set forth in footnote 1 apply.

1) initiated as land marks, 2) designated as land marks, or 3) located within a district that has been designated as a historic district under Article 10.

Finally, interested persons may seek discretionary review of building and demolitions permits from the San Francisco Planning Commission.

Building/demotion permits must be obtained before work is commenced. The timing of the permitting process can vary significantly. Permits for activities that do not require input from the Planning Department or assessment under CEQA may be issued in as little as 30 to 60 days. If extensive assessment under CEQA is required, including for example preparation of an EIR, the permitting process could take well over a year, and in complex cases, several years.

Unless an extension is granted, permits expire unless work is commenced within 90 days of issuance, except in the case of site permits with a valuation of $2,500,000 or more. Building Code Section 106.4.4 (1). Unless they are extended, site permits with a valuation of $2,500,000 to $20,000,000 expire unless work is commenced within 18 months and site permits with a valuation of $20,000,000 or more expire unless work is commenced within 24 months. Building Code Section 106.4.4 (2). The maximum time allowed to complete all work authorized by a building permit depends on its valuation. Maximum time ranges from four months for permits with a valuation under $5,000 to 48 months for permits with a valuation over $20,000,000. Demolition permits expire 180 days after issuance and are only eligible for one 90 day extension. Building Code Section 106.4.4 (6).

In the case of SFERP, local permitting issues should be addressed in the context of the CEC licensing process. Thus, the City should be able to rely on the CEC's CEQA assessment to the extent it is adequate; the requirements for demolition/rehabilitation of the buildings should be incorporated in the City's CEC conditions of certification; and enforcement should be addressed in the compliance plan. Thus, the City has included in its AFC an assessment of the impacts of demolition of Station A and the Compressor House, and refurbishing of the Meter House. The City expects that the CEC will seek input from DBI and the City Planning Department so that appropriate conditions can be included in the conditions of certification and that the compliance plan will provide for the CEC to work with DBI with regards to enforcement. Regarding demolition, such conditions would apply in the event that demolition is part of the SFERP project (if Mirant demolishes any buildings prior to purchase of the land by the City, Mirant will have to comply with the applicable City permitting requirements and the City will immediately notify CEC Staff that demolition is no longer part of the SFERP project description).

Since demolition and rehabilitation should be addressed as part of the CEC licensing process, the City has not developed a separate schedule to seek permits from DBI. If demolition of the buildings is part of the SFERP project, demolition will be the first step of project site clearing.

A contact person at the Department of Building Inspections is:

Kenneth Harrington, Special Assistant to the Director
Department of Building Inspections
1660 Mission Street, 6th Floor
San Francisco, CA, 94103
(415) 575-6893
ken.harrington@sfgov.org

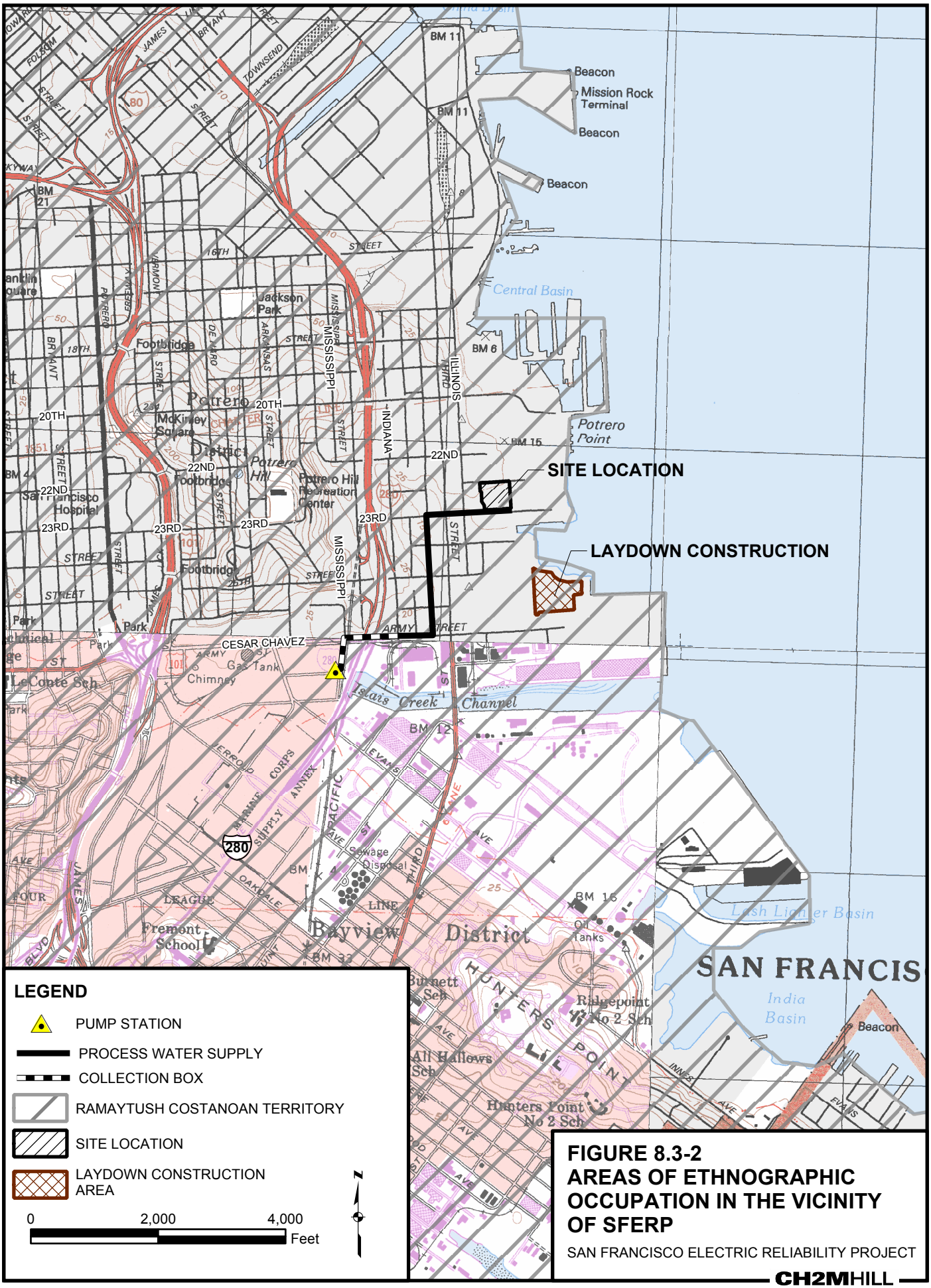


**FIGURE 8.3-2**
**AREAS OF ETHNOGRAPHIC OCCUPATION IN THE VICINITY OF SFERP**

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

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# Section 2.4 Reliability

**Data Adequacy Deficiency –** Please describe the extent to which redundant examples of critical equipment will be provided. Appendix B(i)(3)(B)(iv).

**Data Adequacy Response –** The SFERP has been designed for high plant availability. For example, the natural gas fuel supply line interconnects with PG&E's natural gas transmission system at a natural gas pipeline header. This enables the project to be supplied from any one of three natural gas pipelines. In addition, four, 33% capacity, natural gas booster compressors are provided to insure an adequate fuel supply. The electrical interconnection consists of a five-breaker ring bus with two, overhead 115 kV connections to the Potrero substation. The three combustion turbine-generators are configured as independent equipment trains so that a single equipment failure cannot disable more than one train. Three separate combustion turbine power generation trains will operate in parallel within the power block, with a combustion turbine powering each train. Each combustion turbine will provide approximately 33 percent of the total power block output.

All plant ancillary systems are also designed with adequate redundancy, and 100% backup on station service and auxiliary transformers.

**Data Adequacy Deficiency –** Please describe the maturation period. For mature technologies, this may amount to the startup period. Appendix B(i)(3)(B)(v).

**Data Adequacy Response** - The selected combustion turbine, the General Electric LM6000PC, is a mature engine that is widely used in industrial and peaking applications. As of February 2000, the LM 6000 and its parent aircraft engine have over 61 million hours of operating experience and can be considered a mature technology (please see p. 2, fig. 4 of the *GE Aeroderivative Gas Turbines – Design and Operating Features, GER-3695E).* General Electric has supplied information indicating, based on operating data from 145 units in operation from 2000 to 2003, a fleet availability factor of approximately 98%.

The City will deploy adequate operating personnel and put into place maintenance practices to either achieve or exceed the fleet availability factor.

The plant will be capable of operating 24 hours per day, 7 days per week, for a combined total of up to 12,000 engine hours per year for the three combustion turbines.

# Section 2.5 Soil Resources

**Data Adequacy Deficiency –** Please provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction of the project, the measures proposed to mitigate the adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation for the laydown area. Please provide information that addresses impacts, mitigation and monitoring of contaminated soil for the project site and laydown area. Appendix B(g)(1).

**Data Adequacy Response –**

## Project Site

Potrero PP is located on the eastern shore of the San Francisco Bay, and is bounded to the north by Humboldt Street, to the south by 23rd Street, and to the west by Illinois Street. The 4.5-acre SFERP site is located on the western portion of the Potrero PP site, immediately east of the existing PG&E 115kV Potrero electrical substation. The SFERP site is nearly level and is almost entirely covered with existing structures and paving.

Construction impacts on soil resources can include increased soil erosion and soil compaction. Soil erosion causes the loss of topsoil and can increase the sediment load in surface receiving waters downstream of the construction site. The magnitude, extent and duration of construction-related impacts depends on the erodibility of the soil (discussed below), the proximity of the construction activity to a receiving water, and the construction methods, duration and season. Since the erosion characteristics of the soil type at the site are minimal, very little soil erosion is expected during the construction period. In addition, best management practices (BMPs) will be implemented during construction, as described in Subsection 8.9.5 of the AFC. At a minimum, the City requires that the project sponsor develop and implement an erosion and sediment control plan to reduce the impact of runoff from the construction site (see Subsection 8.14.3.2.4). Therefore, impacts from soil erosion are expected to be less than significant. Consequently, as described in Subsection 8.9.4.5, cumulative impacts are also expected to be negligible. Monitoring will involve inspections to ensure that the BMPs described in the erosion and sediment control plan are properly implemented and effective.

## Contaminated Soil

Based on prior studies of the Potrero Power Plant (PPP) site, and sampling recently performed by the City, contaminated soils exist at the site. Soil sampling was performed at eight locations at the project site in February 2004. Samples were taken both at surface level, [approx ½ feet below ground surface (ft bgs)] and subsurface (3 feet bgs). Sample results indicated the presence of petroleum hydrocarbons, metals (including nickel, arsenic, and chromium), and polynuclear aromatic hydrocarbon (PAHs) compounds. Grading and drainage plans have not been prepared at this time. However, it is possible that contaminated soil may be removed from the site and replaced with engineered fill.

Because the project, including the SFERP location and portions of the wastewater line, is located bayward of the historic high tide line and if the project would involve the excavation

of greater than 50 cubic yards of soil, Article 22A of the San Francisco Health Code would apply. The requirements would be triggered by the building permit application or equivalent process (the City and County of San Francisco is not subject to the Building Code). Major requirements include:

- Preparation of a site history report to describe past site uses and identify whether the site is listed as a hazardous waste site pursuant to state or federal regulations;
- Implementation of a soil investigation to evaluate the potential presence of hazardous wastes in the soil;
- Preparation of a soil analysis report that evaluates the results of chemical analysis of the soil samples;
- Preparation of a site mitigation report, if contamination is identified, assessing potential environmental and health and safety risks, recommending measures to mitigate the risks, identifying appropriate waste disposal and handling requirements, and presenting criteria for on-site reuse of soil;
- Preparation of a certification report stating that either: 1) no hazardous wastes present in the soil present an unacceptable risk and that no mitigation measures are required; or 2) all mitigation measures recommended in the site mitigation report have been completed and that completion of the mitigation measures has been verified through follow-up soil sampling and analysis, if required.

Previous reports prepared on behalf of PG&E should meet the requirements of the required site history although a separate site history report will need to be prepared for those portions of the wastewater line located bayward of the historic high tide line. A project-specific soil analysis report(s) will be required to identify the concentration of chemicals present in the soil at the SFERP location and along the wastewater pipeline alignment that would be excavated for construction. The report(s) will be prepared by knowledgeable, certified professionals and provide information on historic and current hazardous waste contamination at the property. The soil analysis report will be submitted to the SFDPH, and the SFBRWQCB. Based on the soil analysis report, the City will prepare a site mitigation plan that: 1) assesses potential environmental and health and safety risks; 2) recommends mitigation measures, if any are necessary, that would be protective of workers and visitors to the SFERP facility; 3) recommends measures to mitigate the risks identified; 4) identifies appropriate waste disposal and handling requirements; and 5) presents criteria for on-site reuse of soil. The recommended measures will be completed during construction and upon completion, the City will prepare a certification report stating that all mitigation measures recommended in the site mitigation report have been completed and that completion of the mitigation measures has been verified through follow-up soil sampling and analysis, if required. If the soil sampling report does not indicate a potential risk to future site visitors and workers, then no mitigation will be required and the certification report will state that hazardous materials present in the soil do not present an unacceptable risk and that no mitigation measures are required. A deed restriction may be required if hazardous waste levels remain on site in the subsurface.

The construction contract for the project will also include a provision that if previously unidentified areas of contamination are identified during construction, as indicated by discolored soil, odor, or some other condition, the contractor shall have a soil sample taken and submitted for laboratory analysis and stop work in that particular area until the results of the soil sample are known and proper material handling instructions can be determined. Waste Classification and Disposal. More information on handling of contaminated soil is provided in Subsection 8.13, Waste Management.

### Laydown Area

The 10-acre construction laydown area would be located from about 100 feet west of Maryland Street to about 150 east of Massachusetts Street, and between 25th Street and 200 feet north of Cesar Chavez Street (see Figure 2-1). The site, under the control of the Port Authority, is a previously disturbed, relatively flat, vacant parcel of land. A concrete mixing plant, temporary offices and shipping containers once occupied the site. According to Figure 8.9-1, the laydown area soil type is 134—Urban Land-Orthents, reclaimed complex with 0 to 2 percent slopes. As described below, this soil has low erosion potential. Since the erosion characteristics of the soil type at the laydown area are minimal, very little soil erosion is expected during the construction period. In addition, BMPs will be implemented during construction, as described in Subsection 8.9.5 of the AFC and a soil and erosion plan will be prepare to ensure soil loss is minimized. Consequently, as described in Subsection 8.9.4.5, cumulative impacts are also expected to be negligible. Monitoring will involve inspections to ensure that the BMPs described in the erosion and sediment control plan are properly implemented and effective.

Prior to use as the construction laydown area, no grading will be necessary since the site is flat and currently drains to either the Port's storm water system (which drains to the Bay) or percolates into the ground. However, the site will be graveled to provide all weather use and further minimize soil erosion potential. Heavy equipment stored onsite will be placed on dunnage to protect it from ground moisture. Once construction is completed, the gravel will either be removed from the site or left in place at the discretion of the Port Authority.

In addition to the gravel surface, other erosion control practices, if necessary, will be included in the Erosion and Sediment Control Plan to be prepared for the entirety of SFERP construction (see Section 8.14.6.1). Because a portion of the laydown area site drains to the Bay, storm water runoff is regulated under an existing NPDES permit held by the San Francisco Port Authority. It is the intent of the SFERP to use this NPDES permit for the laydown area. However, additional regulatory compliance may be required for storm water quality control because of its temporary construction use. In the event the existing Port Authority NPDES permit cannot be used for the laydown area, pursuant to the statewide General Permit for Storm Water Discharges Associated with Construction Activity, the City would submit a Notice of Intent to the State Water Resources Control Board and prepare a Storm Water Pollution Prevention Plan to be maintained at the construction site. [It is likely that the Erosion and Sediment Control Plan will be used as the Storm Water Pollution Prevention Plan.] Note that the NPDES process is not required for most of the SFERP project area because storm water drains into the City's combined sewer system. It will, however, be

a requirement related to the construction laydown area because of its drainage characteristics.

**Data Adequacy Deficiency –** Please provide the depth, texture, permeability, drainage and erosion hazard rating of the soil The information supplied indicated the characteristics vary, please provide site specific information. Include information for the laydown area also. Appendix B(g)(15)(A)(I).

**Data Adequacy Response –** Wherever these data are provided in the Soil Survey, they are included in Table 8.9-2. For the entire proposed project only two soil mapping units are directly affected. Unit 134 provided information on depth, drainage, and erosion hazard as provided in the table. However, this same information was not provided for Unit 133, on which the majority of the site (including the laydown area) is located. This is the same unit that also has the majority of the effluent pipeline to the west and south of the site.

The Soil Survey of San Mateo County, Eastern Part, and San Francisco County, report indicated that soils had a low water erosion potential. The water and wind erosion potential is low due to:

- Slopes that were generally less than 5 percent over most of the construction area of the site.
- Soil is likely comprised of heterogeneous native and non-native fill.
- The site is surrounded by other structures (manufacturing) that will limit local significant winds that would cause excessive wind erosion
- The water table is close to the surface resulting in moist soils which will minimize wind erosion

The draft geotechnical report (GTC, 2004) states that artificial fill (Qaf) was found in all 8 borings at the site. In the shallow bedrock area (approximately northern half of site), artificial fill ranged in depth from 2 to 7 feet below ground surface (bgs) and consisted of poorly graded sands, silty sands, and sandy gravelly clay. In the deep fill area (approximately the southern half of site), artificial fill ranged in depth from 10 feet to 25 feet bgs. The topmost portion of this fill (extending to as deep as 15 feet bgs) consisted of medium dense poorly graded sands and silty sands underlain by 10 feet of very loose clayey sand.

For the purpose of estimating accelerated soil due to water erosion during construction, the following assumptions were made:

- Estimates of soil loss (in tons) were made for sand and loamy sand only (since the sandy gravelly clay would be the least erosive of the three types)
- No contouring or other surface management
- Rainfall erosivity used was for San Francisco profile
- Assumes 100-foot slope length with 2 percent average slope

- Soil loss estimates, as seen in Table 8.9-4 below, are provided for bare ground smooth surface (cleared state); bare ground rough surface (state during construction) and tall fescue/not harvested (undisturbed state)

Soil loss calculations assumed the following parameters:

- Site is 4.5 acres, grading would occur over a 5-month period (3 months demolition and 2 month site grading), soil would be exposed for the 10-month construction period.
- Laydown area is 10 acres, no grading would occur, soil would be exposed for 4 months

**TABLE 8.9-4**
Estimated Soil Loss by Water Erosion (Without Controls) During Construction

| Surface Type | Soil loss in tons/acre/ year | Months | Estimated Soil Loss (in tons) | | |
|---|---|---|---|---|---|
| | | | Site | Laydown | Total |
| Bare Ground Smooth Surface (During Construction) | 1.2 to 1.3 | S: 10<br>L: 0 | 4.5 to 4.9 | 0 | 4.5 to 4.9 |
| Bare Ground Rough Surface (During Active Grading/Demolition) | 2.9 to 3.3 | S: 5<br>L: 4 | 5.4 to 6.2 | 9.7 to 11.0 | 15.1 to 17.2 |
| Tall Fescue/Not Harvested (Undisturbed State) | 0.0037 to 0.0043 | Not applicable | 0.017 to 0.019 tons/yr | 0.037 to 0.043 tons/yr | 0.054 to 0.062 tons/yr |

S = site
L = laydown area

Assumptions:
The range in soil loss is due to range in soil conditions. Lower number is for sand and the higher number is for loamy sand. No number is provided for the third type of soil observed at the site, sandy gravelly clay, which would have lower erosion rates than the two provided.

The final state of the site during operations will be completely paved or otherwise covered so soil erosion loss at that point would be negligible.

It should be recognized that this estimate of accelerated soil loss by water assumes that there are no steps taken to control loss and that current status of the site (mostly paved) and of the laydown area (compacted dirt & gravel) is similar to conditions of tall fescue, not harvested.

**Wind Erosion**

The potential for wind erosion of surface material at the SFERP was estimated by calculating the total suspended particulate that could be emitted from active grading activities and the wind erosion of exposed soil. The total site area and grading duration were multiplied by emission factors to estimate the total suspended particulate matter (TSP) emitted from the site. Fugitive dust from site grading was calculated using the default particulate matter less than 10 microns in equivalent diameter ($PM_{10}$) emission factor used in URBEMIS2002 and the ratio of fugitive TSP to PM10 published by the Bay Area Air Quality Management District (BAAQMD). (***http://www.baaqmd.gov/pmt/handbook/s12c03fr.htm***) Fugitive dust resulting from the wind erosion of exposed soil was calculated using the emission factor in

AP-42 Table 11.9-4. Table 8.9-5 below summarizes the maximum total TSP predicted to be emitted from the site from grading and the wind erosion of exposed soil. The maximum predicted erosion of material from the site from all air borne sources is estimated at 6.8 tons per year

**TABLE 8.9-5**
TSP Emitted from Grading and Wind Erosion

| Emission Source | Duration (months) | Acreage | TSP (tons) |
|---|---|---|---|
| Grading | 5 | 4.5 | 4.1 |
| **Wind Blown Dust:** | | | |
| Site | 10 | 4.5 | 1.4 |
| Laydown Area | 4 | 10.0 | 1.3 |
| **Total** | | | **6.8** |

**Sources:**

Jones and Stokes, 2003. *Software User's Guide: URBEMIS2002 for Windows with Enhanced Construction Module*. May.

EPA, 1995. *Compilation of Air Pollutant Emission Factors AP-42*. Volume I: Stationary Point and Area Sources. Fifth Edition. January.

**Data Adequacy Deficiency –** Provide an identification of other physical and chemical characteristics of the soil necessary to allow an evaluation of soil erodibility, permeability, re-vegetation potential, and cycling of pollutants in the soil-vegetation system for the laydown area. Appendix B(g)(15)(A)(ii).

**Data Adequacy Response –** The factors that have a largest affect on soil loss include steep slopes, lack of vegetation and erodible soils composed of large proportions of silt. The slopes at the site are generally flat resulting in little erosion to steep slopes and the soils are heterogeneous in texture resulting in a low erodibility rating. Vegetation as a BMP is not being considered for the site, therefore, soil fertility is not a consideration. Therefore, given that slopes are flat, soils are heterogeneous and vegetation has been identified as a BMP mitigation measure the soil erosion hazard is likely to be low.

BMPs will be used to minimize erosion at the site during construction. These measures typically include: mulching, physical stabilization, dust suppression, berms, ditches, and sediment barriers. Water erosion will be mitigated through the use of sediment barriers and wind erosion potential will be reduced significantly by keeping soil moist or by covering soil piles with mulch or other wind protection barriers. These temporary measures would be removed from the site after the completion of construction and the site will paved or completely covered. The final state of the site during operations will be completely paved or otherwise covered so soil erosion loss at that point would be negligible.

**Data Adequacy Deficiency –** Construction activities will increase the potential for soil erosion to occur. Please provide the quantification of accelerated soil loss due to wind and water erosion. This is essential in light of the potential soil contamination on-site. Appendix B(g)(15)(C)(i).

**Data Adequacy Response –** Very conservative estimates of soil loss are provided above. However, the actual potential for soil erosion is very low for the site soils and will be further reduced by implementation of the BMPs described above and in the AFC. In some cases, construction activities may actually accelerate degradation of some of the organic chemicals. Many hydrocarbons and PAHs that are likely present at the site, degrade more rapidly under aerobic (presence of oxygen) conditions. Construction activities will mix air (oxygen) into the surface soils which can be used by indigenous microorganisms to degrade the organic contaminants. Furthermore, plans to pave most of the site will stabilize these soils in place thereby protecting these soils from wind and water erosion.

# Section 2.6 Traffic and Transportation

**Data Adequacy Deficiency –** Figure 8.4-4 shows Tennessee Street as part of water pipe line route, but this street is not included in the description of the route. Please include Tennessee Street in the description of the water pipe line route. Appendix B(g)(1)

**Data Adequacy Response –** A revised subsection 8.10R Traffic and Transportation addressing all deficiencies is attached. Please replace Section 8.10 Traffic and Transportation within the AFC submitted on March 18, 2004 with this revised section.

**Data Adequacy Deficiency –** Please include the Third Street Light Rail Line and planned Light Rail extension in Figure 8.10-2. Appendix B(g)(5)(B).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** Information on road classification and design capacity, current daily average and peak traffic counts, and levels of service has not been included for all roads that were referenced in the description of construction worker and truck routes. Please include Pennsylvania Avenue, 16th Street, 23rd Street, and 25th Street in Table 8.10-2. Please describe the volume design capacity of roadways listed in Table 8.10-2. Appendix B(g)(5)(B)(i).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** Please include current daily average traffic counts for Pennsylvania Avenue, 23rd and 25th Streets, which are part of the construction traffic routes. Please include current peak traffic counts for all roads to be used for construction worker and truck trips including highways. Appendix B(g)(5)(B)(ii).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** Please include current and projected levels of service before project development, during construction, and during project operation for Pennsylvania Avenue, I-80, U.S. 101, and I-280. Appendix B(g)(5)(B)(iii).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** Please provide weight and load limitations for streets to be used by trucks during construction/operation, and any impact due to these limitations. Appendix B(g)(5)(B)(iv).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** Please provide the percentage of current traffic flows for passenger vehicles and trucks for roads affected by or serving the proposed facility. Appendix B(g)(5)(B)(v).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** Water pipeline construction traffic impact is discussed separately from project construction impact. Please include water pipeline construction traffic in assessment of project construction impacts. Appendix B(g)(5)(D).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** Please describe the estimated quantities of construction period hazardous materials to be transported to or from the project and the number of trips. Quantities and number of trips for use of aqueous ammonia during operation have been described. Please discuss the estimated number of operation period trips for transport to and from the site for all other hazardous materials. Appendix B(g)(5)(E).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** All LORS items discussed are not in the LORS table. Please include 49 CFR 350-399 and Appendices A-G, and 49 CFR 397.9 in LORS Table 8.10-1. Appendix B(h)(1)(A).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

**Data Adequacy Deficiency –** All items discussed are not included in the LORS table. Please include 49 CFR 350-399 and Appendices A-G, and 49 CFR 397.9 in LORS Table 8.10-1. Appendix B(h)(2).

**Data Adequacy Response –**See revised subsection 8.10R, attached.

SUBSECTION 8.10R

# Traffic and Transportation

# 8.10 Traffic and Transportation

This section assesses transportation impacts associated with the proposed project. The analysis primarily quantifies impacts on intersection levels of service expected during construction (the addition of approximately 524 maximum daily vehicles including construction workers and trucks) of the proposed project. Additional transportation factors examined in this section include pedestrian and bicyclist impacts, safety, goods movement, and any potential impacts to air, rail, and waterborne transportation networks.

Descriptions of existing transportation facilities in proximity of the proposed project and an analysis of the proposed project's potential impacts on the existing transportation network are provided. The intersection level of service (LOS) analysis examines the worst-case scenario during construction activities (which would occur for a 2-month duration) to the local study area intersections. The operation of the proposed project would include relatively few peak hour trips, which would be associated with permanent employees (20 employees, or 20 a.m. and 20 p.m. peak hour trips). Once these employee peak hour trips are distributed on the street network, traffic impacts would be immeasurable due to the relatively low volume of traffic generated. An additional 60 trips are anticipated to occur throughout the workday (i.e., materials deliveries, visitors, work-related business trips), but not during the critical peak commute hours.

Information sources include traffic counts, data provided by the City of San Francisco's Department of Parking and Transportation (DPT), the California Department of Transportation (Caltrans) and field observations. This subsection also discusses applicable laws, ordinances, and regulations (LORS) relevant to the potential transportation impacts caused by the proposed project.

## 8.10.1 Laws, Ordinances, Regulations and Standards

LORS related to traffic and transportation are summarized in the following subsections.

### 8.10.1.1 Federal

- Title 49, Code of Federal Regulations (CFR), Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.
- 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

### 8.10.1.2 State

State laws that apply to this project include the following sections of this California Vehicle Code (CVC), unless specified otherwise:

- California Street and Highways Code (S&HC), Sections 660, 670, 1450, 1460 et seq., 1470, and 1480, regulates right-of-way encroachment and granting of permits for encroachments on state and county roads.
- Sections 13369, 15275, and 15278 address the licensing of drivers and classifications of licenses required for operation of particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are addressed.
- Sections 25160 et seq. describe requirements for the safe transport of hazardous materials.
- Sections 2500-2505 authorize the issuance of licenses by the Commissioner of the California Highway Patrol (CHP) to transport hazardous materials, including explosives.
- Sections 31303-31309 regulate the highway transportation of hazardous materials, routes used, and restrictions. CVC Section 31303 requires hazardous materials to be transported on state or interstate highways that offer the shortest overall transit time possible.
- Sections 31600-31620 regulate the transportation of explosive materials.
- Sections 32000-32053 regulate the licensing of carriers of hazardous materials and include noticing requirements.
- Sections 32100-32109 establish special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. CVC Section 32105 requires shippers of inhalation or explosive materials to contact the CHP and apply for a Hazardous Material Transportation License. Upon receiving this license, the shipper will obtain a handbook specifying approved routes.
- Sections 34000-34121 establish special requirements for transporting flammable and combustible liquids over public roads and highways.
- Sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5, and 34510-11 regulate the safe operation of vehicles, including those used to transport hazardous materials.
- S&HC, Sections 117 and 660-72, and CVC, Sections 35780 et seq., require permits to transport oversized loads on county roads. California S&HC Sections 117 and 660 to 711 requires permits for any construction, maintenance, or repair involving encroachment on state highway rights-of-way. CVC Section 35780 requires approval for a permit to transport oversized or excessive loads over state highways.
- California State Planning Law, Government Code Section 65302, requires each city and county to adopt a General Plan, consisting of seven mandatory elements, to guide its physical development. Section 65302(b) requires that a circulation element be one of the mandatory elements.
- All construction in the public right-of-way will need to comply with the "Manual of Traffic Controls for Construction and Maintenance of Work Zones" (Caltrans 1996).

- California Department of Transportation (Caltrans) weight and load limitations for state highways apply to all state and local roadways. The weight and load limitations are specified in the CVC Sections 35550 to 35559. The following provisions, from the CVC, apply to all roadways and are therefore applicable to this project.

  General Provisions:

  – The gross weight imposed upon the highway by the wheels on any axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds.

  – The maximum wheel load is the lesser of the following: a) the load limit established by the tire manufacturer, or b) a load of 620 pounds per lateral inch of tire width, as determined by the manufacturer's rated tire width.

  Vehicles with Trailers or Semitrailers:

  – The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 18,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle and resting upon the roadway, shall not exceed 9,500 pounds, except that the gross weight imposed upon the highway by the wheels on any front steering axle of a motor vehicle shall not exceed 12,500 pounds.

### 8.10.1.3 Local

The transportation elements of local plans that are applicable to the project are summarized in Table 8.10-1 and in the following subsection.

- The San Francisco General Plan, transportation and circulation elements, sets forth policies that are applicable to the project. They are as follows:

  – The City's level of service standards for the state highway system and specific routes of regional significance shall be those standards adopted in the General Plan.

- Regional Transportation Plan (RTP) represents the blueprint for major transportation investments in the Bay Area region over the 25-year period from 2000 to 2025. The plan provides a vision for the regional transportation system, now and in the future, and is designed to achieve specific goals defined by the Association of Bay Area Governments (ABAG).

### 8.10.1.4 Compliance with Laws, Ordinances, Regulations, and Standards

All applicable LORS and administering agencies are summarized subsequently. Table 8.10-1R describes how the project will comply with all LORS pertaining to traffic and transportation impacts.

**TABLE 8.10-1R**
Compliance with Laws, Ordinances, Regulations, and Standards

| Authority | Administering Agency | Requirements | Compliance (Location in AFC where compliance discussed) |
|---|---|---|---|
| 49 CFR, Section 171-177 and 350-300 Chapter II, Subchapter C and Chapter III, Subchapter B | U.S. Department of Transportation and Caltrans | Requires proper handling and storage of hazardous materials during transportation. | Project and transportation will comply with all standards for the transportation of hazardous materials. |
| 49 CFR, Section 350-399, and Appendices A-G | U.S. Department of Transportation and Caltrans | Requires transporters to address safety considerations for the transport of goods, materials, and substances over public highways. | Project and transportation will comply with all standards for the transport of goods, materials, and substances. |
| 49 CFR, Section 397.9 | U.S. Department of Transportation and Caltrans | Directs the USDOT to establish criteria and regulations for the safe transportation of hazardous materials. | Project and transportation will comply to criteria established by USDOT under the Hazardous Materials Transportation Act of 1974. |
| CVC §31300 et seq. | Caltrans | Requires transporters to meet proper storage and handling standards for transporting hazardous materials on public roads. | Transporters will comply with standards for transportation of hazardous materials on state highways during construction and operations. The project will conform to CVC §31303 by requiring that shippers of hazardous materials use the shortest route possible to and from the site. |
| CVC §§31600 - 31620 | Caltrans | Regulates the transportation of explosive materials. | The project will conform to CVC 31600 - 31620. |
| CVC §§32000 - 32053 | Caltrans | Regulates the licensing of carriers of hazardous materials and includes noticing requirements. | The project will conform to CVC 32000 - 32053. |
| CVC §§32100 - 32109 and 32105. | Caltrans | Establishes special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. Requires that shippers of inhalation or explosive materials contact the CHP and apply for a Hazardous Material Transportation License. | The project will conform by requiring shippers of inhalation or explosive materials to contact the CHP and obtain a Hazardous Materials Transportation License. |
| CVC §§34000 –34121. | Caltrans | Establishes special requirements for the transportation of flammable and combustible liquids over public roads and highways. | The project will conform to CVC §§34000 - 34121. |

**TABLE 8.10-1R**
Compliance with Laws, Ordinances, Regulations, and Standards

| Authority | Administering Agency | Requirements | Compliance (Location in AFC where compliance discussed) |
|---|---|---|---|
| CVC §§34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5 and 34510-11. | Caltrans | Regulates the safe operation of vehicles, including those used to transport hazardous materials. | The project will conform to these sections in the CVC. |
| CVC §§35550-35559 | Caltrans | Regulates weight and load limitations. | The project will conform to these sections in the CVC. |
| CVC §§25160 et seq. | Caltrans | Addresses the safe transport of hazardous materials. | The project will conform to these sections in CVC. |
| CVC §§2500-2505. | Caltrans | Authorizes the issuance of licenses by the Commissioner of the CHP for the transportation of hazardous materials including explosives. | The project will conform to these sections in the CVC. |
| CVC §§13369, 15275, and 15278. | Caltrans | Addresses the licensing of drivers and classifications of licenses required for the operation of particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are required. | The project will conform to these sections in the CVC. |
| S&HC §§117, 660-711 | Caltrans | Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery. | Encroachment permits will be obtained by transporters, as required. |
| CVC §35780; S&HC §660-711; 21 CCR 1411.1-11411.6 | Caltrans | Requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways. | Transportation permits will be obtained by transporters for all overloads, as required. |
| S&HC §§660, 670, 1450, 1460 *et seq.*, 1470, and 1480 | Caltrans | Regulates right-of-way encroachment and the granting of permits for encroachments on state and county roads. | The project will conform to these sections in the CVC. |
| California State Planning Law, Government Code Section 65302 | Caltrans | Project must conform to the General Plan. | Project will comply with General Plan. |

CCR California Code of Regulations
CFR Code of Federal Regulations
CVC California Vehicle Code
S&HC California Streets and Highways Code

## 8.10.2 Affected Environment

### 8.10.2.1 Project Location and Description

The proposed project involves a power generation facility, and the construction of a water pump station (WPS) at an existing collection station southwest of the project site to a new onsite water treatment system. Figure 8.10-1 illustrates the regional location of the project site and its relative transportation and transit facilities. The proposed power generation facility is located within the existing Potrero Power Plant (Potrero PP) site in the southeastern portion of San Francisco, while the proposed process water supply pipeline and WPS would be generally installed along 23rd, Tennessee, Cesar Chavez, and Marin Streets (Figure 8.10-2R). The project site is at 1201 Illinois Street, east of Third Street and bounded by Humboldt Street to the north and by 23rd Street to the south. A temporary construction "laydown" area (for staging, equipment, and construction worker parking) will be provided two blocks south of the project site, southeast of Maryland Street/25th Street with access from Maryland Street. Construction workers would be shuttled via busses from the lay down area to the project site. The shuttle route would travel within the industrial area along Illinois Street and would not impact through traffic on Third Street. Access to the project site for construction worker shuttles and materials delivery trucks would occur from 23rd Street, east of Illinois Street. The construction crew for the pipeline facilities (crew of eight workers) would be staged in appropriate areas adjacent to pipeline construction activities. The study area is bounded by the San Francisco Bay to the east, Evans Avenue/Hunters Point Boulevard to the south, Evans Avenue to the west, and 16th Street to the north.

The surrounding land uses are primarily warehouses and industrial activities. Port facilities, including dry docks for ship maintenance, lie farther east and south. The proposed facility would result in additional traffic that includes both passenger vehicles related to construction workers and permanent employees, and delivery vehicles transporting commercial equipment, as well as potential impacts related to street closures associated with pipeline installation.

### 8.10.2.2 Existing Transportation Facilities

**8.10.2.2.1 Regional Roadway Facilities.** The proposed project lies near primary transportation corridors that traverse the southern and eastern sections of San Francisco, providing access between Peninsula communities and the employment and cultural centers of the City of San Francisco (City). Major freeways in proximity to the proposed project site include Interstate 280 (I-280), U.S. Highway 101 (US 101), and Interstate 80 (I-80).

***Interstate 280.*** Interstate 280 begins in the South of Market (SoMa) district of San Francisco, extends southwest through Daly City, then proceeds south adjacent to suburban Peninsula communities such as Redwood City and Palo Alto, before heading into downtown San Jose. After reaching San Jose, I-280 turns north as Interstate 680 (I-680), extending into East Bay communities such as Walnut Creek, and Concord. I-280 is comprised of 6- to 8-lanes of mixed flow traffic in the area near the proposed project. According to traffic counts conducted by Caltrans in 2002, I-280 carries approximately 92,000 average daily vehicle-trips. Based on review of the Metropolitan Transportation Commission (MTC) traffic model, the current peak hour truck percentage on I-280, near Cesar Chavez Street, is

approximately 2 percent (MTC model, 2004). Access to the project site from I-280 southbound is by the 25th Street exit, while the Cesar Chavez Street exit provides access from I-280 northbound.

***U.S. Highway 101.*** US 101 serves as one of California's primary western arteries, linking San Francisco to Marin County in the north and to the Peninsula in the south. Access to and from US 101 in the vicinity of the project site is via the Cesar Chavez Street interchange for both northbound and southbound traffic. In the vicinity of the proposed project, US 101 is an 8-lane, limited access freeway that connects to I-80 west of the Bay Bridge. Between I-80 and the Golden Gate Bridge, US 101 continues through San Francisco as a 6-lane surface roadway along Van Ness Avenue, Lombard Street, and Doyle Drive. According to traffic counts conducted by Caltrans in 2002, US 101 carries an average of 249,000 vehicles per day in the vicinity of the project site. The current truck percentage on Highway 101, near Cesar Chavez Street, is approximately one percent during the peak hour (MTC model, 2004). US 101 is also the primary route serving the San Francisco International Airport (SFO).

***Interstate 80.*** Interstate 80, which merges with US 101 north of Hunters Point Shipyard and southwest of downtown, is generally an east–west freeway, extending from downtown San Francisco in the west, to Sacramento and beyond to the east. The Bay Bridge is located along this freeway, connecting San Francisco with the East Bay. Per Caltrans, 2002 average daily traffic counts, average daily traffic in the project vicinity (i.e., north of the I-80/US 101 junction) is approximately 220,000 vehicles. The current truck percentage on I-80, near the Highway 101 junction, is approximately one percent during the peak hour (MTC model, 2004).

**8.10.2.2.2 Local Roadway Facilities.** San Francisco has an extensive street grid system that connects the proposed project to downtown, neighboring communities, and the major freeways described above. This network is categorized into three primary classifications: major arterial roadways, secondary arterial roadways, andcollector roads. Major arterial roadways collect and distribute freeway-bound traffic to accommodate intra-city travel and other medium- and long-distance trips. Secondary arterials and collector roads collect and distribute traffic generated in the area by major arterial roadways.

Major and secondary arterial roadways within the study area that provide access to and from the project area include Third Street, Cesar Chavez Street, 16th Street, andEvans Avenue. These roadways are briefly described below, while Figure 8.10-2R shows the arrangement of the local roadway network in the vicinity of the project site. Table 8.10-2R provides classification and traffic volume data for the local and regional roadways.

**TABLE 8.10-2R**
Characteristics of Roadways in Project Study Area

| Name | Classification [a] | Average Daily Traffic Volume | Peak Hour Volume |
|---|---|---|---|
| **Local Roadways** | | | |
| Third Street | Major Arterial | 21,000 [b] | 2,750 [c] |
| 16th Street | Secondary Arterial | 13,000 [c] | 870 [c] |
| 23rd Street | Collector Road | 3,000 [d] | 200 [c] |
| 25th Street | Collector Road | 3,700 [d] | 250 [c] |
| Evans Avenue | Major Arterial | 14,600 [b] | 1,640 [c] |
| Cesar Chavez Street | Major Arterial | 12,000 [b] | 1,330 [c] |
| Illinois Street | Collector Road | 3,400 [b] | 230 [d] |
| Pennsylvania Avenue | Collector Road | 19,000 [c] | 1,270 [d] |
| **Regional Roadways** | | | |
| I-280(post mile 6.05) [e] | Freeway | 92,000 | 7,050 |
| U.S. 101(post mile 2.92) [e] | Freeway | 249,000 | 15,650 |
| I-80(post mile 4.4) [e] | Freeway | 220,000 | 14,850 |

Notes:
[a] Source: Vehicular Street Map, Transportation Element, City and County of San Francisco, 1995
[b] Source: Korve Engineering, 1999
[c] Source: Daily and peak hour volumes from City of San Francisco Department of Parking and Transportation (DPT), 2004.
[d] Peak hour volume and ADT were determined based on 6.7% K-factor of adjacent streets.
[e] Source: State of California, Department of Transportation (Caltrans), 2002

***Third Street.*** Third Street functions as the principal north–south arterial within the study area. Third street extends north from its interchange with US 101 and Bayshore Boulevard to its intersection with Market Street. It serves as the main commercial street, as well as a primary access route to industrial development along San Francisco's southern waterfront, carrying approximately 21,000 vehicles per day (Korve Engineering, 1999). Based on the MTC model, the current peak hour truck percentage on Third Street in the project vicinity is 2 percent (MTC model, 2004). The Transportation Element of the San Francisco General Plan designates Third Street as a Major Arterial and Primary Transit Route (CCSF Planning Department, 1995). The plan also names Third Street as a Neighborhood Commercial Street and a Citywide Bicycle Route. Per the DPT, there are no vehicle weight and load restrictions on Third Street in the project vicinity.

In terms of physical design, Third Street in the project area is undergoing construction for the Third Street Light Rail Transit (LRT) Improvement Project. Currently, Third Street is being reconstructed from a 6-lane arterial to a 4-lane arterial with two 11-foot-wide traffic lanes and an 8-foot shoulder in each direction. A center median would contain two LRT tracks. In addition, separate left-turn storage lanes are provided at intersections with major arterial roadways but are not provided at minor street intersections. On-street parking is generally allowed on both sides of the street.

As of December 2003, the Third Street LRT construction ended at 22nd Street; however, full LRT extension to the southern City limits will be completed and in operation by late 2005 (Mr. Drew Howard, MUNI, February 2004).

***Cesar Chavez Street.*** Cesar Chavez Street (formerly Army Street) is a major arterial and a Citywide Bicycle Route carrying approximately 12,000 vehicles per day (Korve Engineering, 1999). The current peak hour truck percentage on Cesar Chavez Street in the project vicinity is 2 percent (MTC model, 2004). This 4-lane major arterial extends to the west, traversing the Mission District until Guerrero Street, where it becomes a local street. Cesar Chavez Street provides direct access to both I-280 and US 101. Vehicles exiting on Cesar Chavez Street, going eastbound, from southbound US 101 are subject to an exit ramp with a tight turn radius. This ramp may be considered to be dangerous by some drivers due to its tight turn radius; and it may not be accessible for most trucks due to horizontal and vertical constraints (curve radius and overhead clearance). Cesar Chavez Street proceeds to Third Street, from which vehicles traveling to the proposed project site can continue north to 23rd Street to access the SFERP facility. Per the DPT, there are no vehicle weight and load restrictions on Cesar Chavez Street in the project vicinity.

***16th Street.*** Sixteenth Street functions as a secondary east-west arterial between Market Street and Third Street. Sixteenth Street provides access to the project site from the north and west, with access through the Mission District. Land uses along 16th Street are primarily neighborhood street-front retail/commercial with medium- to high-density residential units. Where 16th Street intersects with Third Street, the area becomes predominantly light industrial. In the project vicinity, 16th Street carries approximately 13,000 vehicles per day (City of San Francisco DPT, 2004), and there are no vehicle weight and load restrictions per the DPT. The current peak hour truck percentage on 16th Street in the project vicinity is one percent (MTC model, 2004).

***23rd Street.*** Twenty-third Street provides direct access to the project site, as well as access to adjacent industrial properties. In the project vicinity, 23rd Street carries approximately 3,000 average daily vehicles (estimated by CH2M HILL). This roadway is undivided and provides one lane of travel in each direction, and there are no vehicle weight and load restrictions on this street in the project vicintiy. In addition, there is on-street parking on both sides of the street, and there is a posted speed limit of 25 miles per hour (mph). A traffic signal exists at the intersection of Third Street and 23rd Street.

***25th Street.*** Twenty-fifth Street would provide direct access to the construction lay down area (i.e., staging and construction worker parking area), and access to other adjacent industrial properties. This roadway is undivided and provides one lane of travel in each direction. Twenty-fifth Street carries approximately 3,700 average vehicles per day (estimated by CH2M HILL). In addition, there are no vehicle weight and load restrictions, there is on-street parking on both sides of the street, and there is a posted speed limit of 25 miles per hour (mph) along 25th Street in the project vicinity. A traffic signal exists at the intersection of Third Street and 25th Street. Access to I-280 is provided via 25th Street, which leads directly to I-280 northbound at Indiana Street, or via Pennsylvania Avenue to reach I-280 southbound. Traffic headed northbound on US 101 can access the ramp directly from Cesar Chavez Street westbound. However, traffic headed southbound must turn around at Bryant Street and return eastbound along Cesar Chavez Street.

***Illinois Street.*** Illinois Street is a wide 2-lane undivided roadway west of the project site. Illinois Street carries approximately 3,400 vehicles per day (Korve Engineering, 1999). Traffic is controlled at the intersections of Illinois Street and 23rd and 25th streets by a two-way stop sign with 23rd and 25th streets serving as the minor (stopped) streets. Land uses along this street in the immediate vicinity of the proposed project consist of warehouses and industrial uses. Additionally, per the DPT, there are no vehicle weight and load restrictions on Illinois Street in the project vicinity.

***Pennsylvania Avenue.*** Pennsylvania Avenue is a north-south 2-lane undivided roadway west of the project site. It carries approximately 19,000 vehicles per day (City of San Francisco DPT, 2004). The segment of Pennsylvania Avenue between 23rd Street and Cesar Chavez Street provides freeway on- and off-ramp access to and from southbound I-280. Land uses along this section of roadway are primarily light industrial. Per the DPT, there are no vehicle weight and load restrictions on Pennsylvania Avenue in the project vicinity.

### 8.10.2.3 Existing and Future Baseline Intersection Levels of Service

Per guidance from the City's DPT, level of service (LOS) is a measure of average control delay at an intersection. The DPT (like most other jurisdictions) analyzes traffic impacts by peak hour intersection capacity and operations, rather than daily roadway capacity. Intersection level of service is identified through a letter designation, varying from LOS A (less than 10 seconds of delay) to LOS F (greater than 80 seconds of delay) as described in Table 8.10-3. For urban settings, LOS E (delays of 55 to 80 seconds) represents the least tolerable acceptable condition.

**TABLE 8.10-3**
Level of Service Criteria for Signalized Intersections

| Level of Service | Average Delay (seconds per vehicle) | Traffic Flow Characteristics |
|---|---|---|
| A | ≤ 10 | Most vehicles arrive during the green phase and do not stop at all. |
| B | > 10 to ≤ 20 | More vehicles stop, causing higher delay. |
| C | > 20 to ≤ 35 | Vehicle stopping is significant, but many still pass through the intersection without stopping. |
| D | > 35 to ≤ 55 | Many vehicles stop, and the influence of congestion becomes more noticeable. |
| E | > 55 to ≤ 80 | Very few vehicles pass through without stopping. |
| F | > 80 | Considered unacceptable to most drivers; intersection is not necessarily over capacity even though arrivals exceed capacity of lane groups. |

Source: Highway Capacity Model, Transportation Research Board, 2000

This analysis focuses on the following study area intersections during a typical weekday peak hour between 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.

- Third Street/16th Street
- Third Street/20th Street
- Third Street/25th Street
- Third Street/Cesar Chavez Street
- Third Street/Evans Avenue

- Evans Avenue/Cesar Chavez Street

Traffic conditions were evaluated using the Synchro level of service software (Trafficware, Version 5). Synchro is a traffic operations analysis tool that incorporates the methodology of Transportation Research Board's 2000 *Highway Capacity Manual* (TRB 2000). This program assigns a LOS designation based upon average vehicle delay. This methodology complies with the evaluation requirements of the City DPT. Although peak hour traffic volume data is not available through the DPT for Pennsylvania Avenue intersections, it is expected that traffic in this immediate area would not be congested since surrounding land uses are industrial and industrial land uses tend to generate low volumes of traffic. Pennsylvania Avenue, between 23rd Street and Cesar Chavez Street, primarily provides access to and from the I-280 southbound on- and off-ramps. The turning movements at these intersections mainly provide access to I-280 and as such, there are few conflicts at these intersections.

Intersection conditions were evaluated for the following scenarios:

- Existing (2000) conditions
- Baseline (2005) conditions
- Baseline plus Project Construction Phase conditions
- Cumulative (2015) conditions.

**8.10.2.3.1 Existing Conditions.** Figure 8.10-3R illustrates the existing a.m. and p.m. peak hour traffic volumes, intersection geometrics and controls, while Table 8.10-4 shows the results of the existing condition traffic analysis. Under existing conditions, the studied intersections operate at LOS D or better for both the a.m. and p.m. peak periods. The intersections within proximity to the project, Third Street/20th Street and Third Street/25th Street currently operate at LOS A and LOS B during the a.m. and p.m. peak hours, respectively. The intersection of Third Street/Evans Avenue operates at LOS D (37.3 seconds delay) during the a.m. peak hour.

**TABLE 8.10-4**
Level of Service Summary for Existing, Baseline 2005, and Cumulative (2015) Conditions

| Intersection | Peak Hour | Existing (2000) | | Baseline (2005) | | Cumulative (2015) | |
|---|---|---|---|---|---|---|---|
| | | LOS | Delay [a] | LOS | Delay [a] | LOS | Delay [a] |
| Third Street/16th Street | a.m. | B | 12.1 | B | 16.8 | C | 25.7 |
| | p.m. | B | 14.5 | B | 16.7 | C | 22.0 |
| Third Street/20th Street | a.m. | A | 3.1 | A | 2.7 | C | 20.1 |
| | p.m. | A | 2.8 | A | 3.6 | C | 27.4 |
| Third Street/25th Street | a.m. | B | 11.9 | A | 6.7 | B | 13.2 |
| | p.m. | B | 11.3 | A | 8.2 | B | 11.7 |
| Third Street/Cesar Chavez Street | a.m. | C | 27.1 | C | 28.3 | D | 39.9 |
| | p.m. | C | 24.5 | C | 31.0 | D | 40.0 |
| Third Street/Evans Avenue | a.m. | D | 37.3 | D | 39.6 | D | 44.7 |
| | p.m. | C | 24.0 | C | 26.5 | D | 36.0 |
| Evans Avenue/Cesar Chavez Street | a.m. | B | 13.6 | B | 14.0 | B | 16.6 |
| | p.m. | B | 19.4 | C | 26.6 | C | 31.1 |

Note:
[a] Delay in seconds per vehicle.

In addition, a freeway mainline level of service analysis was prepared for the study area freeway segments of I-280 (at Cesar Chavez Street), Highway 101 (at Cesar Chavez Street), and I-80 (at US 101 junction). This analysis is consistent with the methodology provided in the Highway Capacity Manual. Currently, the segment of I-280 in the project area is operating at a LOS C, while Highway 101 and I-80 in the project study area are both operating at LOS F.

**8.10.2.3.2 Baseline (2005) Conditions.** Future a.m. and p.m. peak hour turn movement counts for cumulative year 2015 were provided from the DPT and incorporated into the project's traffic analysis. The cumulative 2015 traffic volumes provided the basis of estimating the 2005 traffic volumes. The 2015 traffic volumes are based on growth and development trends in the Potrero Hill area of the City as determined by DPT transportation modeling staff. Background (2005) a.m. and p.m. peak hour volumes, consistent with the planned year of project construction, were interpolated assuming straight line growth from existing (2000) and future (2015) volumes. Based on the interpolation of DPT's cumulative traffic volumes, the average growth rate applied at the intersection traffic volumes in the study area is approximately 2.6 percent per year.

Figure 8.10-4R illustrates the 2005 baseline (without project construction traffic) a.m. and p.m. peak hour traffic volumes, intersection geometrics and controls, while Table 8.10-4 shows the results of the 2005 baseline traffic analysis. No additional intersection improvements are planned for the study area intersections, and therefore, the intersection geometrics remain the same as the existing condition. Based on the LOS analysis of the 2005 baseline conditions, all of the study area intersections are forecast to continue to operate at LOS D or better for both a.m. and p.m. peak hours.

The study area freeway mainline segments would continue to operate at similar LOS as the existing condition (I-280 at LOS C, Highway 101 at LOS F, and I-80 at LOS F).

**8.10.2.3.3 Cumulative (2015) Conditions.** As previously stated, cumulative 2015 peak hour traffic volumes were provided by the DPT and based on growth and development trends in the Potrero area of the City as determined by DPT transportation modeling staff. The 2015 traffic condition would be associated with the operations of the proposed project. The operations of the proposed project would generate a total of 100 daily trips, 20 a.m. peak hour, and 20 p.m. peak hour trips. This addition of traffic on the study area would have an immeasurable effect on intersection LOS once the trips are distributed throughout the street network.

Figure 8.10-5R illustrates the 2015 cumulative a.m. and p.m. peak hour traffic volumes, intersection geometrics and controls, while Table 8.10-4 provides the 2015 intersection LOS at the study area intersections. Other than the operation of the MUNI N-Judah light rail line through the center median of Third Street, no additional intersection improvements are planned for the study area intersections. Based on the LOS analysis of the 2015 cumulative conditions, all of the study area intersections are forecast to continue to operate at LOS D or better for both a.m. and p.m. peak hours. Additional traffic from operations will have no significant impact on LOS.

The freeway mainline LOS analysis was run for the 2015 cumulative condition. Based on that analysis, LOS on the I-280 study area segment would degrade from LOS C in the 2005 condition, to LOS D in the 2015 condition. Both, Highway 101 and I-80 would continue to operate at LOS F in the 2015 condition.

### 8.10.2.4 Public Transportation

San Francisco is a transit hub served by local and regional bus, rail, and ferry services. Regional service connects downtown San Francisco with the surrounding suburban areas. San Mateo County Transit District (SamTrans) and Bay Area Rapid Transit (BART) serve the Peninsula communities south of the SFERP facility. AC Transit buses and BART serve the East Bay, while Golden Gate Transit serves the North Bay communities. Ferry service also carries passengers to downtown San Francisco from coastal North and East Bay communities. In central eastern San Francisco, BART runs north-south along Mission Street, with the station nearest to the project site located at 24th Street.

**8.10.2.4.1 San Francisco Municipal Railway.** The San Francisco Municipal Railway (MUNI) currently carries 219 million passengers per year on 85 transit lines. The system provides approximately 5,300 stops throughout San Francisco, with lines providing extensive coverage to all San Francisco neighborhoods. MUNI connects with other Bay Area transit service providers at major transfer centers including the Ferry Building, Transbay Terminal, Embarcadero, and Civic Center BART stations along Market Street, and the Stonestown Shopping Center, and the Daly City BART station.

Major MUNI routes in the vicinity of the project site serve both north-south travel originating in downtown San Francisco or San Mateo counties, and cross-town travel. Below are descriptions of the major routes that serve these travel patterns. Route N – Judah serves as the only light-rail transit (LRT) in the study area, while other MUNI routes are bus routes.

***Route N – Judah (Light-rail Transit).*** This LRT route currently travels in a general east-west fashion from Ocean Beach, through downtown and the Embarcadero, to the Caltrain station at Fourth and King streets. Route N has major stops at the MUNI and BART stations at Van

Ness, Civic Center, Powell, Montgomery, and Embarcadero. Route N provides 5- to 9-minute headways during the a.m. peak period, and 4- to 12-minute headways during the p.m. peak period.

The extension of the MUNI Third Street LRT Line past the Caltrain Station, south to the southern City limits, is currently under construction in the vicinity of the project site. According to MUNI, specific portions of this extension project would be completed and operational in 2004, with full completion of the extension to the City's southern limits by late 2005 (Howard, 2004).

***Route #15 - Third Street.*** This route functions as the primary transit line serving the Central Basin and Hunters Point regions. It carries passengers through downtown San Francisco, extending north to Fisherman's Wharf and south to Hunters Point. Route #15 allows connections with other transportation services that reach throughout the Bay Area including Caltrain (terminal at 4th and Townsend streets and Paul Avenue station), BART, and the MUNI subway system (via the Montgomery and Embarcadero stations). Route #15 provides frequent service with articulated buses, running on 5- to 8-minute intervals during peak hours and 10- to 15-minute intervals during off-peak hours. By mid 2004, a portion of the Route N LRT extension will be completed, and will provide service along the Embarcadero in lieu of the current Route #15 lines.

***Route #22 – Fillmore.*** This route travels from Fillmore and Bay streets in the Marina District south through Pacific Heights and Mission Dolores before heading southeast to Third Street. The route turns north at 20th Street, stopping 2 blocks from the proposed project site. Route #22 provides service at 7- to 12-minute intervals during the a.m. peak period and at 5- to 11-minute intervals during the p.m. peak period.

***Route #48 – Quintara/24th Street.*** This route provides crosstown service from the West Portal community to Potrero Hill. This line accesses the MUNI subway at the West Portal Station, as well as BART at 24th and Mission Streets. Passengers are transported within one block of the proposed project site, with a stop at 22nd and Illinois Streets. This line also connects to Route #15 and Route #9, while passing near Caltrain's 22nd Street depot. Route #48 offers service at 6- to 15-minute intervals during the a.m. peak period, and at 10- to 12-minute intervals during the p.m. peak period.

**8.10.2.4.2 Caltrain.** Caltrain provides commuter rail service between Santa Clara, San Mateo, and San Francisco counties. The station closest to the project site is the 22nd Street and Pennsylvania Avenue station. This station is approximately 6 blocks west of the proposed project along MUNI Route #48, described above. During the week, trains connect this station to Peninsula communities, while all 32 trains continue northbound to the final Caltrain stop at 4th and Townsend Streets. Service runs on 30-minute intervals during the a.m. and p.m. peak periods. During the weekends, 13 trains run approximately every hour on Saturday, while 10 trains run every 1 to 2 hours on Sunday. Currently, however, weekend train service is suspended till approximately spring 2004 for construction associated with new Caltrain express train service.

**8.10.2.4.2 Bay Area Ferries.** Ferry service is provided between Vallejo, Alameda, Oakland, Tiburon, Sausalito, and downtown San Francisco. Presently MUNI Route #15 provides connections to ferry services only in Fisherman's Wharf and at Piers 41 and 43. In the project

vicinity, MUNI Route #15 operates southbound on Second Street and northbound on Third Street. In 2004, MUNI's new Third Street LRT will provide service to Bay Area ferries via connections along the Embarcadero. The following describes the five ferry service providers in the project area.

***Vallejo Baylink Ferry.*** The Red and White Fleet operates this limited commute ferry service from Vallejo to the San Francisco Ferry Building. There are currently 15 trips per weekday in each direction, four of which are via bus, and nine trips per day on weekends, one of which is via bus.

***Alameda and Oakland Ferry Service.*** The Blue and Gold Fleet operates this service, with ferries departing from Alameda and Oakland's Jack London Square for both the San Francisco Ferry Building and Pier 41/Fisherman's Wharf. Thirteen inbound and outbound trips each weekday serve the Ferry Building while 7 inbound and 5 outbound trips serve Pier 41. On the weekends, 4 inbound trips and 5 outbound trips serve the Ferry Building while 6 inbound and outbound trips serve Pier 41.

***Harbor Bay Ferry.*** This ferry provides weekday commuter service between Alameda and the San Francisco Ferry Building. There are six inbound trips and six outbound trips per day.

***Red and White Fleet.*** The Red and White Fleet provides ferry service from San Francisco to Tiburon and Sausalito, Service to these locations is provided from both the Ferry Terminal (during peak commute hours) and from Fisherman's Wharf at Pier 43. Five ferries in each direction travel between San Francisco and Tiburon/Sausalito.

***Golden Gate Ferry.*** This ferry provides daily service between Larkspur and Sausalito in Marin County and the San Francisco Ferry Building. The Larkspur Ferry runs 21 inbound and outbound trips (one trip in each direction is via bus) on weekdays with one Friday night late ferry in each direction during summer months. On weekends and holidays, there are 5 inbound and outbound trips running on 2-hour intervals during the day. The Sausalito Ferry runs 9 trips in each direction on weekdays with a 10th trip provided during summer months. On weekends and holidays, there are 6 trips in each direction with a 7th trip during summer months.

### 8.10.2.5 Bicycle and Pedestrian Circulation

There are currently several signed on-street bicycle routes in the project vicinity, but no existing pedestrian trails. A Class III route (on-street bike route; signs only) circles around 3Com Park and connects to Third Street, via Gilman, Carroll, Thomas, and Revere avenues. Within the project vicinity, the *San Francisco Master Plan* designates Evans Avenue, Innes Avenue, Cesar Chavez Street, and Third Street as Citywide Bicycle Routes.

Additionally, by August 2004, DPT will be providing Class II (striped) bike lanes on Illinois Street. With the construction of the Third Street Light Rail Line discussed above, cyclists traveling north and south in the Third Street – Illinois Street Corridor would be subject to unsafe conditions on Third Street. Illinois Street is the logical replacement for Third Street as a bicycle route, Illinois Street is one block to the east, and connects to other bicycle routes to the north and south. Since Illinois Street is part of the Bay Trail Plan (see below), the bike lanes would form a continuous connection between Islais Creek and North Beach on bike lanes or paths (Class I, off-street).

Sidewalks exist along Third Street, and with the completion of the Third Street LRT project, more pedestrians are anticipated along Third Street. Sidewalks do not exist on 22nd or 23rd streets, with shops abutting directly onto the street. Parking space is available on both sides of these streets, requiring that pedestrians walk within travel lanes.

**8.10.2.5.1 Bay Trail Plan.** The Bay Trail Plan was adopted by the Association of Bay Area Governments in 1989 pursuant to Senate Bill 100, and provides an alignment that connects the nine-county Bay Area region with a multi-purpose hiking and bicycle trail, along with a set of policies to guide implementation. Consistent with the Bay Trail Plan, Illinois Street is a designated bikeway in the draft Central Waterfront Neighborhood Plan. Illinois Street in the vicinity of the project site is the designated Bay Trail. However, no dedicated facilities (e.g., a striped bike lane) are currently provided in the vicinity of the project.

The Bay Trail Plan proposes an alignment for what will become a 400-mile recreational "ring around the Bay." Approximately one-third of the trail already exists, either as hiking-only paths, hiking and bicycling paths or as on-street bicycle lanes. When completed, the Bay Trail will create connections between more than 130 parks and publicly-accessible open space areas around San Francisco and San Pablo Bays.

### 8.10.2.6 Airports

San Francisco International Airport (SFO) is approximately 15 miles south of the proposed project site on US 101. SFO can also be reached via BART (transit) and Interstate 380 (I-380) that connects to I-280 (vehicles). In addition, Oakland International Airport (OAK) sits across the Bay, accessible via BART and I-80 across the Bay Bridge, connecting to Interstate 880 (I-880). San Jose International Airport (SJC) lies farther south, accessible via Caltrain and US 101 or I-280.

### 8.10.2.7 Goods Movement

**8.10.2.7.1 Freight Rail Service.** Currently no active freight rail service is provided in the immediate vicinity of the proposed project. There is an inactive railroad track operated by the Southern Pacific Corporation (SP) via trackage rights from Caltrain, which connect the Caltrain mainline tracks to the south gate of Hunters Point Shipyard. Currently, the Port of San Francisco (Port) is planning to re-orient freight rail service from Mission Bay to the Port of San Francisco waterfront via the future Illinois Street rail/bicycle bridge.

Immediately north of Hunters Point Shipyard and the India Basin, an Intermodal Container Transfer Facility (ICTF) branch track serves the Evergreen Pier 90 to Pier 96 area. The ICTF branch diverges from the Caltrain mainline just north of Tunnel #3 in the northbound direction.

**8.10.2.7.2 Truck Access.** The largely industrial land uses near the project site generate truck traffic. A designated truck route between US 101 and I-280 and the project site exists along Cesar Chavez Street, Evans Avenue, and Third Street (north of Evans Avenue). Trucks weighing more than 11,000 pounds are prohibited on Third Street between Evans Avenue and Carroll Avenue, and no through trucks are allowed on Third Street between Jamestown Avenue and Jerrold Avenue.

### 8.10.2.8 Planned Transportation Improvements

**8.10.2.8.1 Third Street Light Rail Project.** The MUNI Third Street Light Rail Transit (LRT) Line is currently under construction within the vicinity of the proposed project. This MUNI project will provide a light rail line down Third Street to the City's southern limit, and provide a 4-lane arterial with two 11-foot-wide traffic lanes and 8-foot shoulders in each direction. An approximately 32-foot-wide center median would contain two LRT tracks for the future extension of the MUNI N Line. As of December 2003, the Third Street LRT construction ended at 22nd Street; however, full LRT extension to the southern City limits will be completed and in operation by late 2005 (Howard, 2004).

In the vicinity of the project, left-turn lanes will remain on Third Street for Evans, Cesar Chavez Street, 25th Street (northbound only), 23rd Street, and 20th Street. In addition to the light rail line, the project area includes a new Metro East Operating and Maintenance Facility at Illinois and 25th streets. This facility would store, maintain, and dispatch light rail vehicles on a site of approximately 13 acres.

**8.10.2.8.2 Bicycle Facility Improvements.** DPT's Bicycle Program Manager provided the following information on planned bicycle facility improvements. (Tannen, 2003).

***Illinois Street Bicycle Route (16th Street to Cesar Chavez Street).*** DPT received a Transportation Funding for Clean Air (TFCA) grant from the Bay Area Air Quality Management District (BAAQMD) to provide Class II (striped) bike lanes on Illinois Street. With the construction of the Third Street Light Rail Line, cyclists traveling north and south in the Third Street – Illinois Street Corridor would be subject to unsafe conditions on Third Street. Illinois Street is the logical replacement for Third Street as a bicycle route. It is one block to the east and connects to other bicycle routes to the north and south.

In addition, Illinois Street is part of the Bay Trail bicycle route in San Francisco. The Illinois Street bike lanes would form a continuous connection between Islais Creek and North Beach on bike lanes or paths (Class I, off-street). The bicycle connection would include the future (funded) Illinois Street Bridge over Islais Creek, the existing Terry A. Francois Boulevard bike lanes, the Pac Bell Park Promenade, and The Embarcadero Promenade bike lanes for a total of 4.75 miles. The Illinois Street bike lanes project will be completed by August 2004.

***Cesar Chavez Street Bicycle Route (US 101 to I-280).*** The Cesar Chavez Street bike route would provide for Class II (striped) bike lanes on Cesar Chavez Street, between US 101 and I-280. As a result of this project, existing on-street parking on the north side of Cesar Chavez Street (westbound) would be removed. Colored bike lane treatments across the US 101 and I-280 on- and off-ramps would also be used to help highlight the presence of bicycles across these potential high-conflict areas. This segment would make use of the existing asphalt path underneath US 101. Other crossing treatments would be needed to allow bicyclists to cross safely.

## 8.10.3 Environmental Consequences

This subsection discusses potential environmental impacts of the proposed project. Potential traffic impacts during construction of the plant, as well as plant operation after construction, have been analyzed. Significance criteria were developed based upon Appendix G of the CEQA *Guidelines*, which identifies significant impacts to be caused by a project if it results in

an increase in traffic that is substantial relative to the amount of existing traffic and the capacity of the surrounding roadway network. In addition, impacts are assessed in accordance with the criteria used by the City Planning Department. The more stringent of these two sets of criteria were used to determine project-related impacts.

Project area reconnaissance was performed by CH2M HILL in November 2003 to examine the proposed project area, document roadway characteristics, identify physical constraints, and assess general traffic conditions.

When completed, the operational phase of the proposed project would generate approximately 20 additional employee commutes and other off-peak hour trips (i.e., materials deliveries, visitors, business-related trips), or 100 daily trips. During the peak construction phase, the project is expected to generate approximately 484 average daily construction worker trips. To analyze the "worst-case" scenario, traffic impacts associated with construction traffic were analyzed. Consequently, a quantitative traffic analysis was not conducted for the long-term operations phase since it would generate a low volume of peak hour trips (20 a.m. and 20 p.m. peak hour employees trips). This would not have a measurable impact on the study area intersections.

### 8.10.3.1 Thresholds of Significance

The following presents the significance criteria regarding transportation used by the Planning Department for the determination of impacts associated with a proposed project:

- The operational impact on signalized intersections is considered significant when project-related traffic causes the intersection level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. The project may result in significant adverse impacts at intersections that operate at LOS E or F under existing conditions depending upon the magnitude of the project's contribution to the worsening of the average delay per vehicle. In addition, the project would have a significant adverse impact if it would cause major traffic hazards or contribute considerably to cumulative traffic increases that would cause deterioration in levels of service to unacceptable levels.

- San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day-to-day, from day-to-night, from month-to-month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

- The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. With the MUNI and regional transit screenlines analyses, the project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the PM peak hour.

- The project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions

for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

- The project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.
- Loading impacts were assessed by comparing the proposed loading space supply to the *Planning Code* requirements and by the estimated loading demand during the peak hour of loading activities.
- Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

### 8.10.3.2 Intersection Levels of Service

**8.10.3.2.1 Construction Impacts.** Peak hour traffic operations were evaluated for the weekday a.m. and p.m. peak periods (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) for the local roadway network adjacent to the project site during construction. The peak hour analysis examined the worst-case scenario of the impact of 258 daily employees during construction of the project.

***Trip Generation.*** Construction of the proposed project is anticipated to begin in 2005 and last approximately 12 to 14 months. A peak workforce would consists of approximately 250 workers at the plant site, and 8 workers along the pipeline alignment, each day over a 2-month period during months 6 and 7 of construction. While all of the plant construction workers would park at the lay-down area on 25th Street, the pipeline construction crew would park adjacent to their work sites along the pipeline alignment.

Construction for the plant and pipeline would generally be scheduled to occur between 7:00 a.m. and 8:00 p.m., 5 days a week, although additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Based on the regular schedule, most worker trips to the project site would occur during the a.m. (inbound to site) and p.m. (outbound from site) peak commute hours. The delivery of construction materials and the hauling of materials from the project site would also occur during the day, but not during the peak hours. Table 8.10-5R summarizes the total daily and peak-hour construction vehicle trip generation for the peak construction period.

**TABLE 8.10-5R**
Construction Trip Generation for the Proposed Project

| | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|
| **Vehicle Type** | **ADT** | **In** | **Out** | **In** | **Out** |
| Construction Personnel (plant site)[a] | 470 | 219 | 11 | 11 | 219 |
| Construction Personnel (pipe line alignment)[a] | 14 | 7 | 0 | 0 | 7 |
| Delivery Trucks [b] | 10 | 0 | 0 | 0 | 0 |
| Heavy Vehicles and Trucks | 30 | 0 | 0 | 0 | 0 |
| **Total** | **524** | **226** | **11** | **11** | **226** |

Source: CH2M HILL

[a] Approximately 10 construction personnel trips (5 inbound and 5 outbound) associated with lunch and other business-related trips would occur from 9:00 a.m. to 4:00 p.m. (outside of peak hours)
[b] Delivery and other truck trips would occur on weekdays, from 9:00 a.m. to 4:00 p.m. (outside of peak hours)

During the peak construction period, using a average vehicle occupancy (AVO) factor of 1.14 persons per vehicle for commuting (National Personal Transportation Survey, Table 7.16, Average Vehicle Occupancy by Trip Purpose, FHWA, 1990), construction workers would generate an estimated 484 daily trips, 237 a.m. peak hour trips, and 237 p.m. peak hour trips. During this period, approximately 40 truck trips would occur (inbound and outbound trips for 5 delivery trucks to plant site, 8 heavy trucks to plant site, and 7 heavy trucks to pipeline construction areas), with no truck trips occurring during the a.m. and p.m. peak commute periods. Also, approximately 10 construction personnel trips (5 inbound and 5 outbound) associated with lunch and/or business-related trips would occur outside of the peak hours. Therefore, the total peak construction trip generation would be 524 daily trips, 237 a.m. peak hour trips, and 237 p.m. peak hour trips.

***Trip Distribution.*** Trip distribution percentages for the construction employees are based on assumptions of regional demographics of construction workers, review of existing traffic counts from DPT, and recent surveys of the project site (i.e., drive-by windshield surveys). The construction worker trip distribution has been determined to be: 25 percent within the City of San Francisco (local trips); 15 percent would originate in Marin County and points north; 40 percent would originate from the East Bay; and the remaining 20 percent would originate from San Mateo County and points south.

To arrive at the construction lay down area, two blocks south of the project site, construction worker trips from Marin County would use US 101 and exit on Cesar Chavez Street and proceed to Third Street. Trips from the East Bay would use I-80 to US 101, and exit on Cesar Chavez Street. Trips from within the City would use 16th Street and Third Street to reach project location. Trips from San Mateo County would use I-280, exit at Evans Avenue and Third Street. The construction crew for the pipeline facilities (crew of eight workers) would be staged in appropriate areas along 23rd, Tennessee, Cesar Chavez, and Marin Streets, adjacent to pipeline construction activities.

Figure 8.10-6R illustrates the construction worker trip assignment that incorporates the trip generation and the distribution of construction workers. These volumes serve as the basis for the traffic impact analyses to determine the LOS impacts likely to be imposed by construction of the proposed project.

***Background plus Project Conditions.*** As previously discussed, the proposed project would add approximately 237 a.m. and 237 p.m. peak hour trips to the study area street network in the 2005 construction year. These peak hour trips were added to the 2005 baseline condition, and Figure 8.10-7R illustrates the 2005 plus project construction traffic a.m. and p.m. peak hour volumes, as well as the intersection geometrics and traffic controls. Table 8.10-6 summarizes the intersection LOS for the 2005 plus construction traffic condition.

**TABLE 8.10-6**
Level of Service Summary for 2005 Plus Project Construction Conditions

| | | Baseline (2005) | | 2005 Plus Project | |
|---|---|---|---|---|---|
| **Intersection** | **Peak Hour** | **LOS** | **Delay*** | **LOS** | **Delay *** |
| Third Street/16th Street | a.m. | B | 16.8 | C | 23.8 |
| | p.m. | B | 16.7 | B | 18.2 |
| Third Street/20th Street | a.m. | A | 2.7 | A | 5.4 |
| | p.m. | A | 3.6 | A | 3.2 |
| Third Street/25th Street | a.m. | A | 6.7 | A | 7.3 |
| | p.m. | A | 8.2 | B | 13.1 |
| Third Street/Cesar Chavez Street | a.m. | C | 28.3 | D | 52.8 |
| | p.m. | C | 31.0 | D | 39.6 |
| Third Street/Evans Avenue | a.m. | D | 39.6 | D | 43.2 |
| | p.m. | C | 26.5 | C | 32.4 |
| Evans Avenue/Cesar Chavez Street | a.m. | B | 14.0 | B | 16.7 |
| | p.m. | C | 26.6 | C | 23.1 |

Note:

* Delay in seconds per vehicle

Based on the traffic analysis, addition of the construction worker traffic volumes would change LOS during one or both peak hours at the following intersections:

- Third Street/16th Street: LOS B to LOS C in the a.m. peak hour
- Third Street/25th Street: LOS A to LOS B in the p.m. peak hour
- Third Street/Cesar Chavez Street: LOS C to LOS D in the a.m. and p.m. peak hours

Although the construction trips associated with the project would change LOS at these intersections, all study area intersections are forecast to continue to operate at LOS D or better. Based on the freeway mainline analysis prepared for the 2005 plus peak construction phase of the project, mainline LOS at the study area segments of I-280, Highway 101, and I-80 would remain the same as the 2005 baseline (i.e., without project) condition. Project contributions to the LOS F segments of Highway 101 and I-80 would be less than one percent and 2 percent,

respectively. The project contribution of 2 percent or less to the freeway mainline segments would be considered less-than-significant.

Therefore, the addition of project construction traffic would have a less-than-significant impact on intersection levels of service in the study area. In addition, it is important to note that this peak construction activity would only occur for a 2-month period.

Construction impacts related to the WPS and process water supply pipeline component are primarily related to the placement pipeline and associated materials along streets in the study area. A crew of eight pipeline construction personnel would be working during the peak months (months 6 and 7). This crew would park adjacent to their worksites, rather than the laydown area on 25th Street. The construction methods for the pipeline would consist of open-cut trenching and tunneling methods such as microtunneling or jack-and-bore along the following roadway segments:

- Marin Street, west of I-280
- Cesar Chavez Street, west of I-280 to Tennessee Street
- 23rd Street, Tennessee Street to project site

The project would be required to prepare a Traffic Management Plan (TMP) to offset traffic impacts associated with construction of the pipeline. The 7 a.m. peak hour, and 7 p.m. peak hour trips (using 1.14 AVO for eight workers) would not have a measurable impact on the streets in the study area.

The roadways providing access to the project site and plant and pipeline lay down areas would continue to provide adequate capacity to accommodate the additional vehicle trips expected during construction. A TMP will be required to address the potential impacts to affected streets due to the installation of the WPS and process water supply pipeline. Therefore, impacts during construction are expected to be less-than-significant.

**8.10.3.2.2 Operational Impacts.** The permanent addition of 20 employees and other plant-associated trips (i.e., materials deliveries, visitors, business-related trips) for operations would generate 100 daily, 20 a.m. peak hour, and 20 p.m. peak hour trips. Once these trips are distributed on the study area network, they would result in a less-than-significant impact, as their traffic volumes would be immeasurable in terms of intersection LOS. The freeway mainline LOS analysis for the 2015 cumulative condition indicated that Highway 101 and I-80 would continue to operate at LOS F, while I-280 would operate at LOS D.

The remaining 60 non-peak hour trips would be associated with regular plant deliveries, visitors, and employee business-related trips. Since these trips would be spread throughout the day, and would not occur during the peak commute hours, they would also have a less-than-significant impact on traffic operations.

### 8.10.3.3 Parking Facilities

Construction of the proposed project would not impact on-street parking. A vacant lot to the south of the project site at Maryland Street/25th Street will be used as a lay down area (staging, and construction worker parking lot) for the construction worker parking demand.

From the lay down area, construction workers would be bussed two blocks north (via Illinois Street) to the project site.

When completed, the project would contain adequate onsite parking to accommodate the permanent 20 employees. In addition, street parking will continue to be available along Illinois Street and 23rd Street. Street parking spaces would not be eliminated as part of the proposed project. Therefore, no significant impacts to parking are anticipated.

### 8.10.3.4 Public Transportation

MUNI Route 48 has a stop at Illinois Street/22nd Street, which is the nearest stop to the project site. Approximately 23 percent (58 employees) of the construction workforce is anticipated to either carpool or use alternative transportation modes to and from the project site, and the remaining 192 employees would drive their automobiles to the lay down area. A portion of the 58 construction workers and a portion of the 20 permanent employees would not significantly impact the operations of MUNI bus routes, and the future Third Street Light Rail Line (for permanent employees).

### 8.10.3.5 Bicycle and Pedestrian Circulation

By 2005, planned bicycle routes on Third Street, Cesar Chavez Street, and Illinois Street will be completed. Pedestrian sidewalks will continue to exist along on Third Street, while Illinois Street, 23rd Street, and 25th Street will offer little space to accommodate pedestrians. Construction-related traffic would be temporary in nature and would circulate during the a.m. and p.m. peak hours only, while operational traffic of the project would be relatively low. The addition of construction and operational traffic is not expected to significantly impact pedestrian or bicycle facilities along Third Street, Cesar Chavez Street, and Illinois Street.

### 8.10.3.6 Goods Movement

Construction and operation of the proposed project would not impact adjacent freight rail lines, and air or shipping routes. Therefore, the project would not have a significant impact on goods movement.

### 8.10.3.7 Safety

The roadways in the vicinity of the proposed project site would continue to provide adequate sight distances. Accident rates at nearby intersections are relatively low averaging approximately 2.5 per year (Korve Engineering, 1999). Truck traffic within the area would continue to use designated truck routes (Cesar Chavez Street) to access the proposed project site. In addition, the project site is located in an industrial zone one block east of Third Street, with no neighboring commercial retail businesses or residences. Impacts to vehicle, pedestrian, and bicycle safety as a result of construction and operation of the project would be less-than-significant.

### 8.10.3.8 Air, Rail, and Waterborne Traffic

The proposed project would have no impacts on air, rail, or waterborne traffic.

### 8.10.3.9 Hazardous Materials Transport

Construction of the proposed project would generate hazardous wastes consisting primarily of batteries, asbestos containing materials, and various liquid wastes (e.g., cleaning solutions, solvents, paint and antifreeze). Contaminated soils could also be generated in the pre-construction or site preparation phase and would be transported as hazardous materials or hazardous waste. (See Subsection 8.13.6.1.2.) Transport route arrangements would be required with Caltrans officials for permitting and escort, as applicable. Generally, only small quantities of hazardous materials will be used during the construction period, as described in Subsection 8.12, Hazardous Materials Handling. They may include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. Because of the small quantities of hazardous materials involved, shipments will likely be consolidated. Multiple truck deliveries of hazardous materials during construction are unlikely. During construction, a minimal number of truck trips per month will be required to haul waste for disposal. Because the transport of hazardous wastes will be conducted in accordance with the relevant transportation regulations (see below), no significant impact is expected.

Operation of the project would result in the generation of additional wastes including lubricants, water treatment chemicals, herbicides and pesticides, and sludge. In addition, operation of the project will require transportation of aqueous ammonia, a regulated substance. Aqueous ammonia will be delivered to the plant by truck transport using designated truck routes (see discussion below). Small quantities of sulfuric acid and various other hazardous materials will also be used in project operations, as described in subsection 8.12. According to Division 13 Section 31303 of the CVC, the transportation of regulated substances and hazardous materials will be on the state or interstate highways that offer the shortest overall transit time possible.

Aqueous ammonia is considered a potential inhalation hazard. Division 14.3 Section 32105 of the CVC specifies that unless there is not an alternative route, every driver of a vehicle transporting inhalation hazards shall avoid, by prearrangement of routes, driving into or through heavily populated areas, congested thoroughfares, or places where crowds are assembled.

The truck loading area will be located within a bermed area adjacent to the storage tank onsite. The use of 29 percent aqueous ammonia will require approximately 14 deliveries of ammonia per year, or 28 truck trips per year. This would equate to approximately 1 to 2 deliveries per month, or 2 to 4 truck trips per month (inbound and outbound). These occasional truck trips would generally occur during the non-peak commute hours. If the plant uses lower concentrations of aqueous ammonia, more frequent delivery would be required.

Table 8.10-7 summarizes expected truck trips for the project, including delivery of hazardous materials and removal of wastes. There will be a maximum of ten truck trips per day, with an average of 2 or less truck trips per day to the project site. For further information on the management of hazardous materials and waste products, see Subsections 8.12 and 8.13, respectively.

**TABLE 8.10-7**
Estimated Truck Traffic at the Facility During Operation

| Delivery Type | Number and Occurrence of Trucks |
|---|---|
| Aqueous ammonia | 1 to 2 per month |
| Sulfuric acid | 2 per month |
| Cleaning chemicals | 1 per month |
| Trash pickup | 1 per week |
| Lubricating oil | 4 per year |
| Lubricating oil filters | 4 per year |
| Laboratory analysis waste | 4 per year |
| Oily rags | 4 per year |
| Oil absorbents | 4 per year |
| Water treatment chemicals | Up to 4 per week |

Additionally, transporters of inhalation hazardous or explosive materials must contact the CHP and apply for a Hazardous Material Transportation License. Upon receiving this license, the shipper will obtain a handbook that will specify the routes approved to ship inhalation hazardous or explosive materials. The exact route of the inhalation or explosive material shipment will not be determined until the shipper contacts the CHP and applies for a license. Transportation impacts related to hazardous materials associated with power plant operations will not be significant since deliveries of hazardous materials will be limited. Delivery of these materials will occur over prearranged routes and will be in compliance with all LORS governing the safe transportation of hazardous materials.

Standards for the transport of hazardous materials are contained in the Code of Federal Regulations, Title 49 and enforced by the U.S. Department of Transportation. Additionally, the State of California has promulgated rules for hazardous waste transport that can be found in the California Code of Regulations, Title 26. Additional regulations for the transportation of hazardous materials are outlined in the California Vehicle Code (Sections 2500-505, 12804-804.5, 31300, 3400, and 34500-501). The two state agencies with primary responsibility for enforcing federal and state regulations governing the transportation of hazardous wastes are the California Highway Patrol (CHP) and Caltrans. Transport of hazardous materials to and from the SFERP will comply with all applicable requirements.

For those materials that require offsite removal, a licensed hazardous waste transporter would move these substances to one of three Class I hazardous waste landfills in proximity to the project site. Access by waste haulers to the project site would be via Illinois Street. Vehicles can then proceed south along Third Street to Cesar Chavez Street to reach southbound I-280 to US 101 (hazardous wastes cannot be transported on the Bay Bridge (I-80)). Specific outbound truck routes in the City from the project site to southbound I-280 to US 101 are as follows:

1. Project site (23rd Street) to Third Street – southbound
2. Third Street to Cesar Chavez Street – westbound

3. Cesar Chavez Street to Pennsylvania Avenue – northbound
4. Pennsylvania Avenue to I-280 southbound on-ramp
5. I-280 southbound to US 101 southbound

Specific inbound truck routes in the City to the project site from northbound 1-280 from US 101 are as follows:

1. US 101 northbound to I-280 northbound
2. I-280 northbound to Evans Avenue/Cesar Chavez Street off-ramp
3. Evans Avenue – eastbound, to Third Street
4. Third Street – northbound, to project site (23rd Street)

These inbound and outbound truck routes serving the project site to I-280/US 101 would travel through predominantly industrial areas within the City. Once established, these routes would not allow truck travel through sensitive residential neighborhood areas.

For outbound trucks, once on US 101, trucks would proceed around the south end of the Bay to I-580 and I-5 via I-880 and SR 238. Alternatively, haulers could continue through Stockton to State Route 99 (SR 99) that parallels I-5 but runs slightly east through the Central Valley communities of Merced and Fresno. I-5 and SR 99 provide access to California's three Class I hazardous waste facilities including:

- Safety Kleen, Buttonwillow (Kern County)
- Safety Kleen, Imperial County
- Chemical Waste Management, Kettleman Hills (Kings County)

The major highways and interstates that would be used to carry hazardous wastes from the project site to the appropriate landfills contain adequate capacity to accommodate these vehicle trips. Hauling would be carried out in accordance with local, state, and federal regulations that include the Resource Conservation and Recovery Act (42 U.S. Code 6901 et seq.), the California Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), and the San Francisco Department of Public Health.

In addition, the federal government prescribes regulations for transporting hazardous materials. These regulations are described in the Code of Federal Regulations, Number 49, Part 171. These laws and ordinances place requirements on various aspects of hazardous waste hauling, from materials handling to vehicle signs, to ensure public safety. Transporting and handling of chemicals and wastes are discussed in Subsection 8.12, Hazardous Materials Handling, including the transport of ammonia.

## 8.10.4 Cumulative Impacts

As described previously, the available capacity of the regional state routes and local roads in the project area shows the regional and local transportation system has the capacity to accommodate future traffic including that resulting from the proposed construction and operation of project.

According to MUNI, the Third Street LRT project is anticipated to be completed and in operation by the end of 2005. Based on discussions with MUNI staff (Velmo Garcia, MUNI, February 2004), Segment B of the LRT extension (16th Street to 23rd Street) would be completed and in operation by August 2004, while Segment C (23rd Street to Cesar Chavez

Street) would be completed and in operation by early 2005. The remaining segments (south to the City limits) would be completed an in operation by late 2005. Segment C is the closest to the project site. Construction of the proposed project in 2005 (construction months 6 and 7), would potentially coincide with the completion stage of Segment C of the LRT project. Since Segment C would be near completion at the time of the peak construction months of the proposed project, it is anticipated that there would be no significant construction timing issues relating to peak hour trips of construction forces and truck trips. There are no other known proposed projects whose workforce and/or material deliveries would concurrently have a significant amount of traffic on the same state routes and local roadways. Therefore, there would be no significant cumulative traffic impacts.

## 8.10.5 Mitigation Measures

### 8.10.5.1 Construction Impacts

Construction of proposed project would add a moderate amount of traffic to state routes and local roadways during the peak construction period. However, because existing intersection capacity is adequate, these project-related traffic increases will not result in significant impacts.

During operation and construction, access to the facility will be provided via Third Street to 23rd and 25th streets. The construction contractor will prepare a construction traffic control plan and construction management plan, also known as a Traffic Management Plan (TMP), that addresses timing of heavy equipment and building material deliveries, potential street and/or lane closures associated with pipeline installation, signing, lighting, traffic control device placement, and establishing work hours outside of peak traffic periods.

Methods for mitigating potential traffic impacts caused by construction may include such activities as stationing flag persons at the access road into the site, and placing advance warning flashes, flag persons, and signage along the roadways. Figures 8.10-8 and 8.10-9 illustrate traffic control systems, as developed by Caltrans, that would be implemented during the construction phases of the project. Damage to any roadway opened during construction will be restored to or near its preexisting condition. The construction contractor will work with the local agency's engineer to prepare a schedule and mitigation plan for the roadways along the construction routes.

It should be noted that most trip reduction strategies are not feasible for the construction phase of the project, primarily because of the differing schedules of tradespersons and the need to transport tools and materials to the job site.

### 8.10.5.2 Operation Impacts

The operations-related and maintenance-related traffic associated with the project is considered to be minimal; state routes and local roadways have adequate capacity to accommodate operations-related traffic. Consequently, no operations-related mitigation measures are required.

## 8.10.6 Involved Agencies and Agency Contacts

The proposed project lies in proximity to roadways operated by the City of San Francisco. The relevant agencies and appropriate contacts are shown in Table 8.10-8 below.

**TABLE 8.10-8**
Agency Contacts

| Agency | Contact/Title | Telephone |
|---|---|---|
| San Francisco, Planning Department | Tim Blomgren<br>Environmental Group<br>30 Van Ness Avenue, 4th Floor<br>San Francisco, CA 94102 | (415) 558-5979 |
| San Francisco County Transportation Authority | Tilly Chang<br>Manager of Planning<br>100 Van Ness Avenue, 25th Floor<br>San Francisco, CA 94102 | (415) 522-4832 |
| San Francisco, Department of Parking and Traffic | Jerry Robbins<br>25 Van Ness Avenue, Suite 410<br>San Francisco, CA 94102 | (415) 554-2343 |
| Federal Motor Carrier Safety Administration | Bob Brown<br>Materials Specialist<br>201 Mission Street, Suite 2100<br>San Francisco, CA 94105 | (415) 744-2646 |

## 8.10.7 Permits Required and Permit Schedule

Traffic studies for projects in San Francisco require consultation with the City Planning Department to comply with its extensive traffic analysis requirements. The short duration of the construction, in conjunction with the minute permanent addition of 100 trips, impose a relatively insignificant addition to existing traffic levels. The City will consult with Planning Department staff to determine the extent to which the traffic analysis requirements should be applied in the case of the SFERP.

The relevant permits required for work performed within city streets in San Francisco are identified in Table 8.10-9 below.

**TABLE 8.10-9**
Required Permits

| Responsible Agency | Permit/Approval | Schedule |
|---|---|---|
| CCSF, Department of Public Works – Bureau of Street-Use and Mapping | Utility Permit | 45-60 days |
| CCSF, Department of Parking and Traffic – Bureau of Traffic Engineering | Extralegal Truck Permit (if necessary) | 24 hours |

## 8.10.8 References

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**FIGURE 8.10-1**
**REGIONAL TRANSPORTATION FACILITIES NEAR THE PROJECT SITE**

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

CH2MHILL

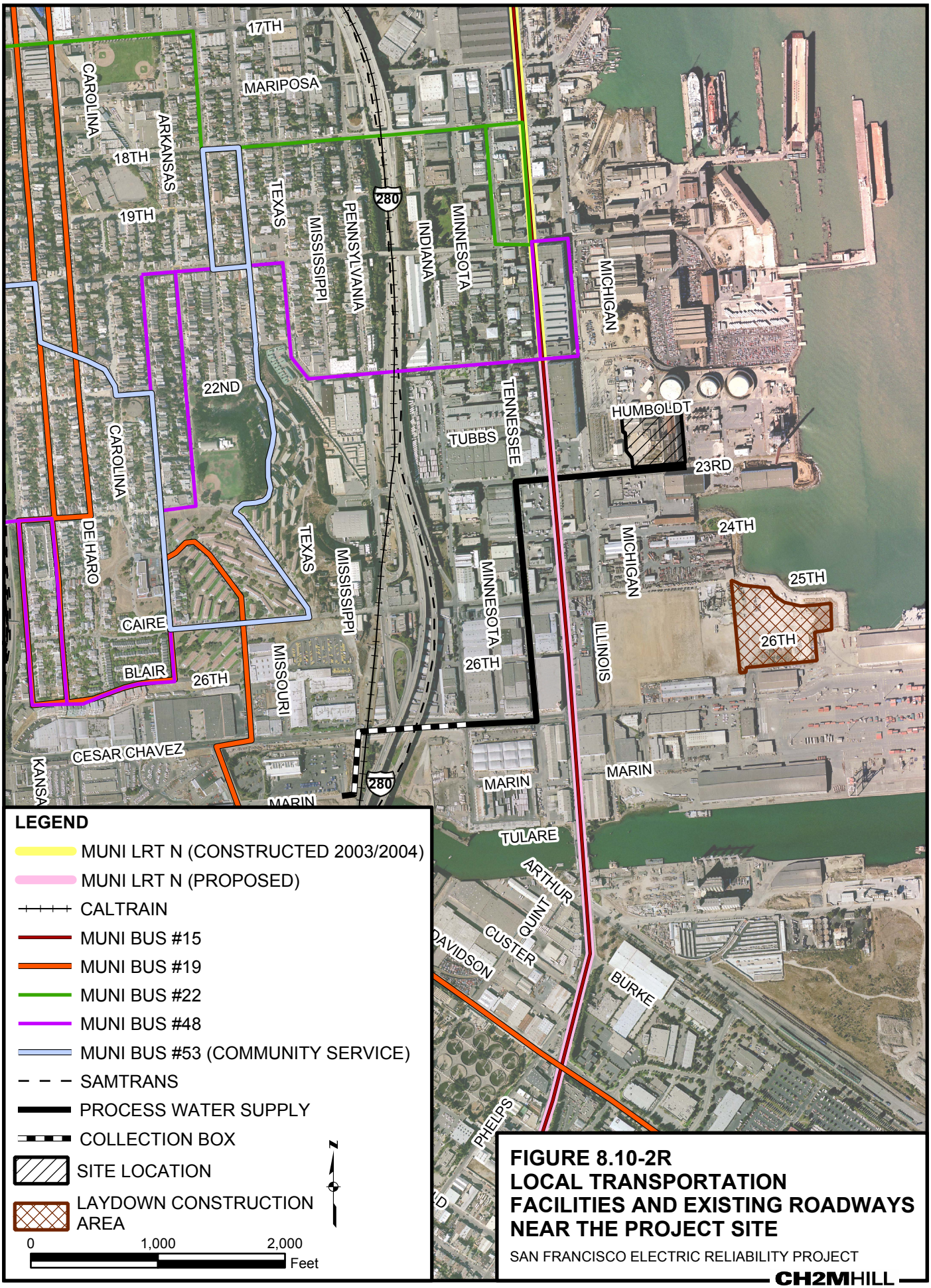


**FIGURE 8.10-2R**
**LOCAL TRANSPORTATION FACILITIES AND EXISTING ROADWAYS NEAR THE PROJECT SITE**

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

CH2MHILL

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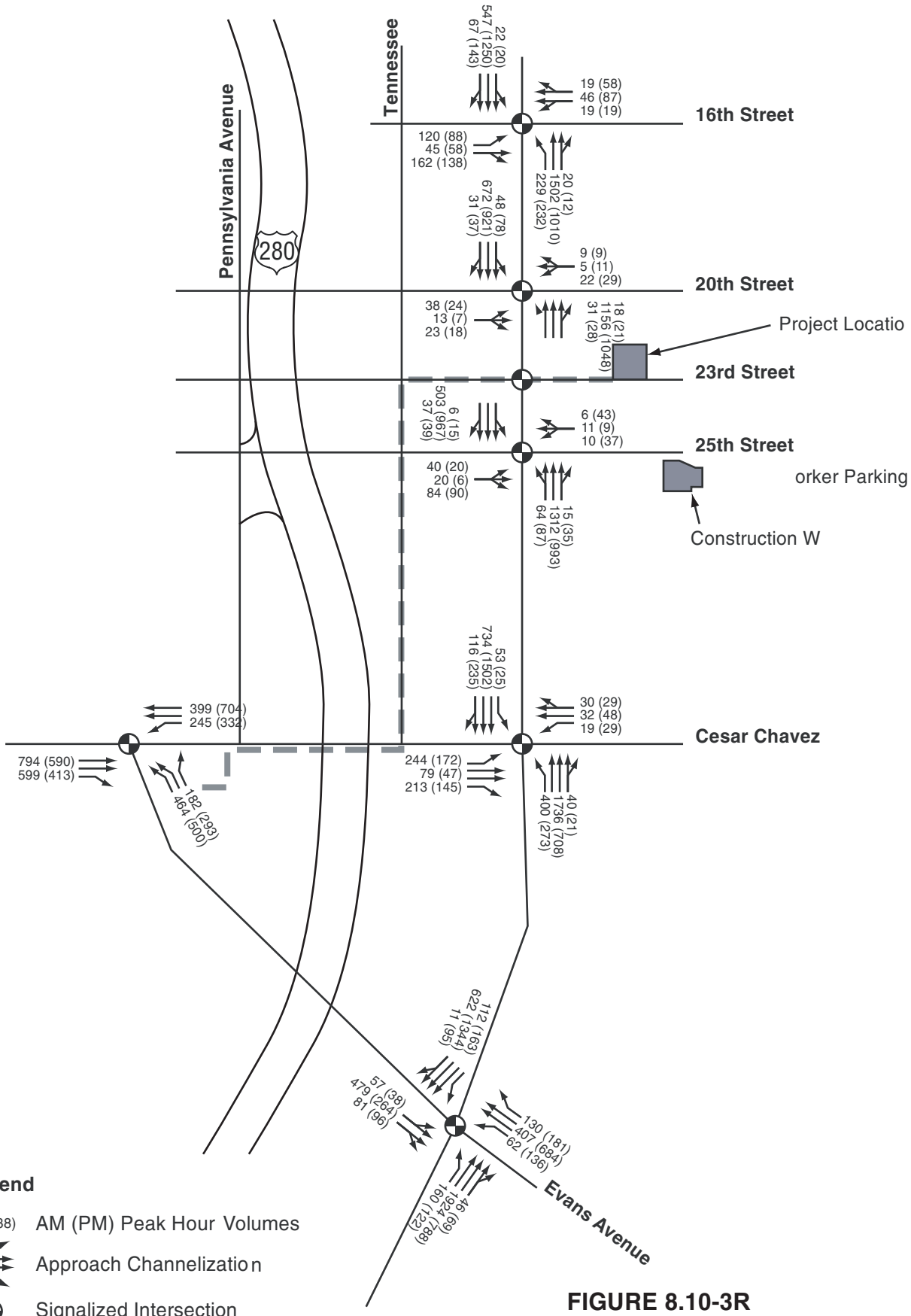


**FIGURE 8.10-3R**
**EXISTING (2000) AM AND PM PEAK HOUR VOLUMES, INTERSECTION CHANNELIZATION AND TRAFFIC CONTROL**
SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

D012004005RDD_26 (4/6/04)

CH2MHILL

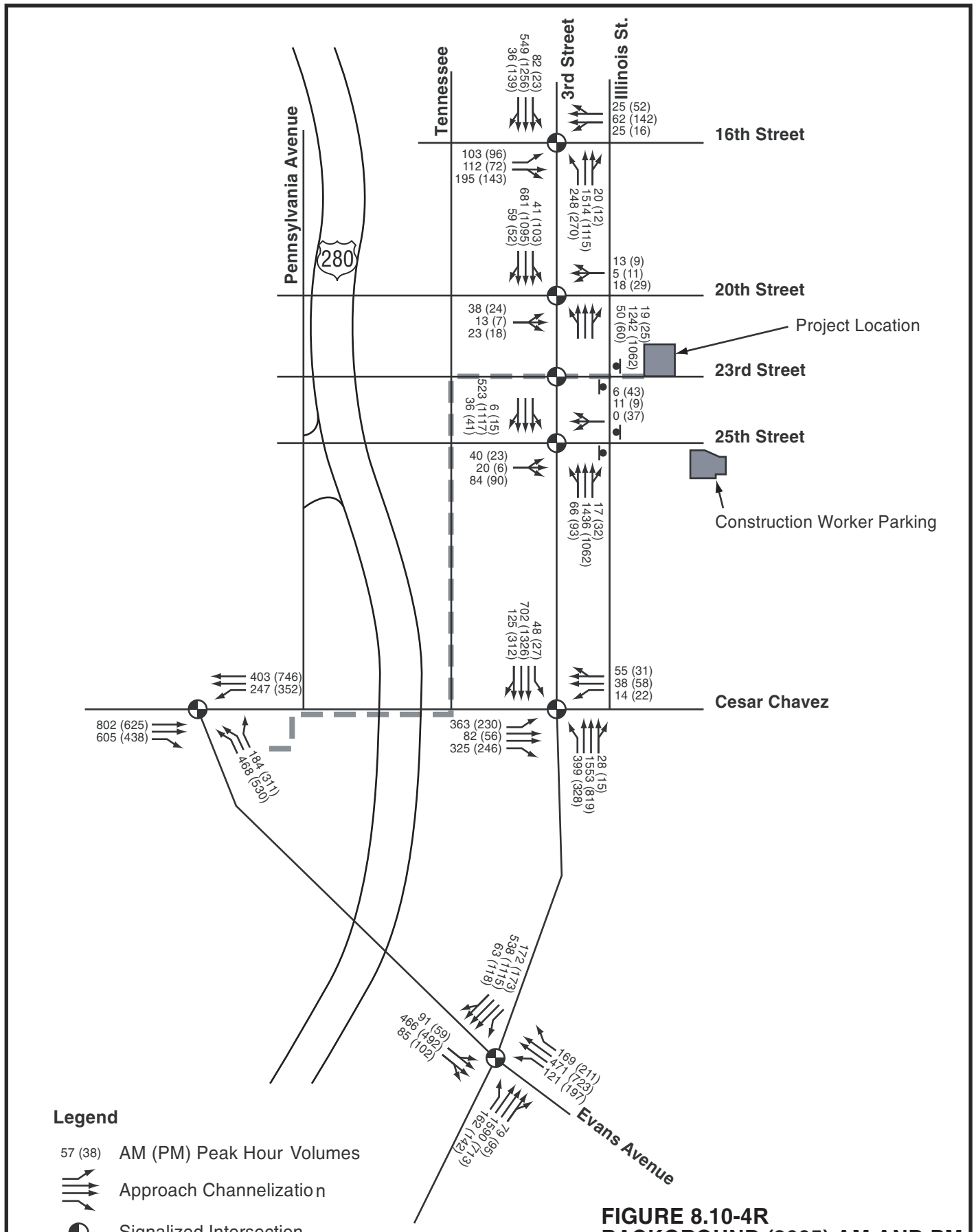


**FIGURE 8.10-4R**
**BACKGROUND (2005) AM AND PM PEAK HOUR VOLUMES, INTERSECTION CHANNELIZATION AND TRAFFIC CONTROL**
SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

D012004005RDD_25 (4/6/04)

CH2MHILL

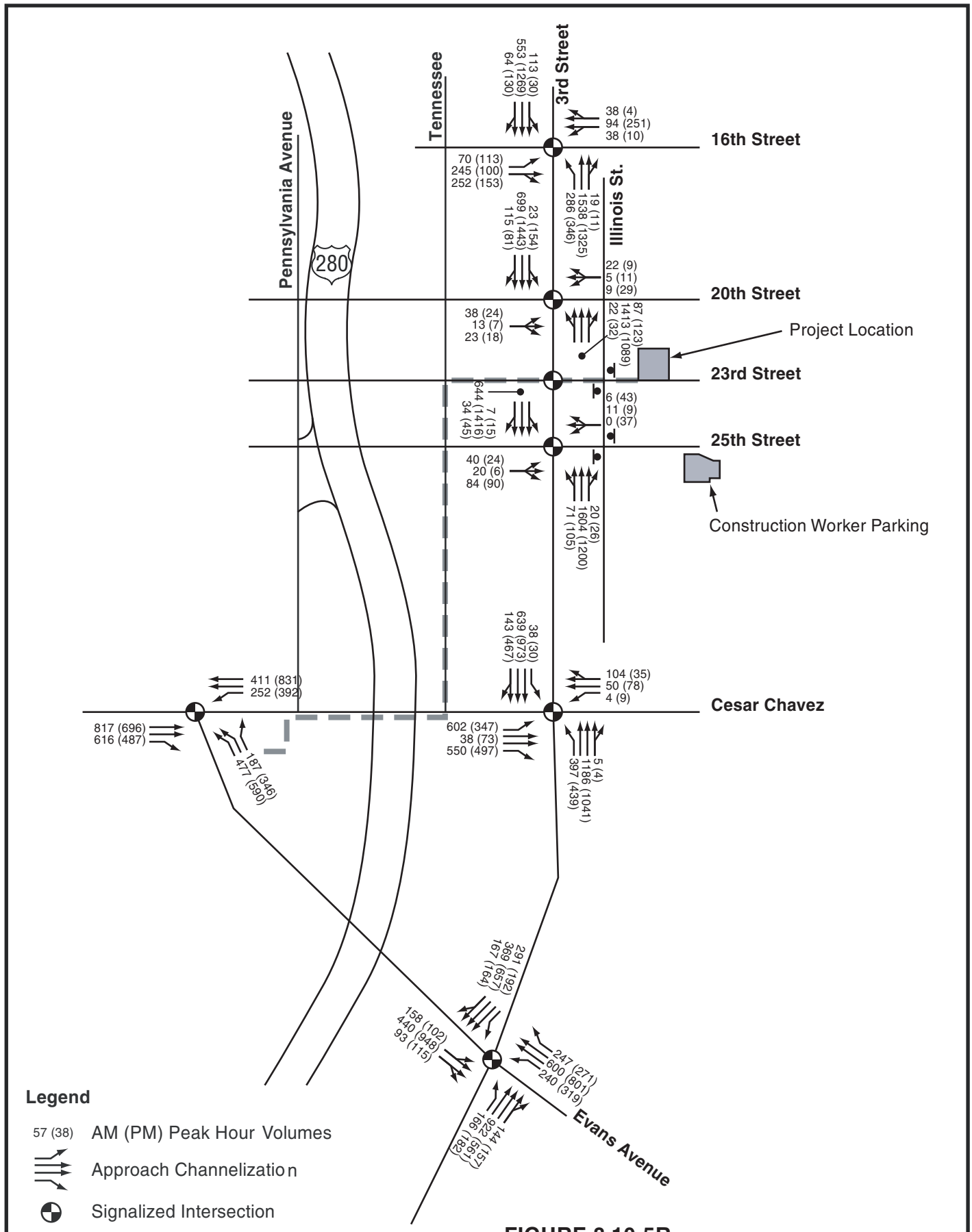


**FIGURE 8.10-5R**
**CUMULATIVE (2015) AM AND PM PEAK HOUR VOLUMES, INTERSECTION CHANNELIZATION AND TRAFFIC CONTROL**
SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

D012004005RDD_24 (4/6/04)

CH2MHILL

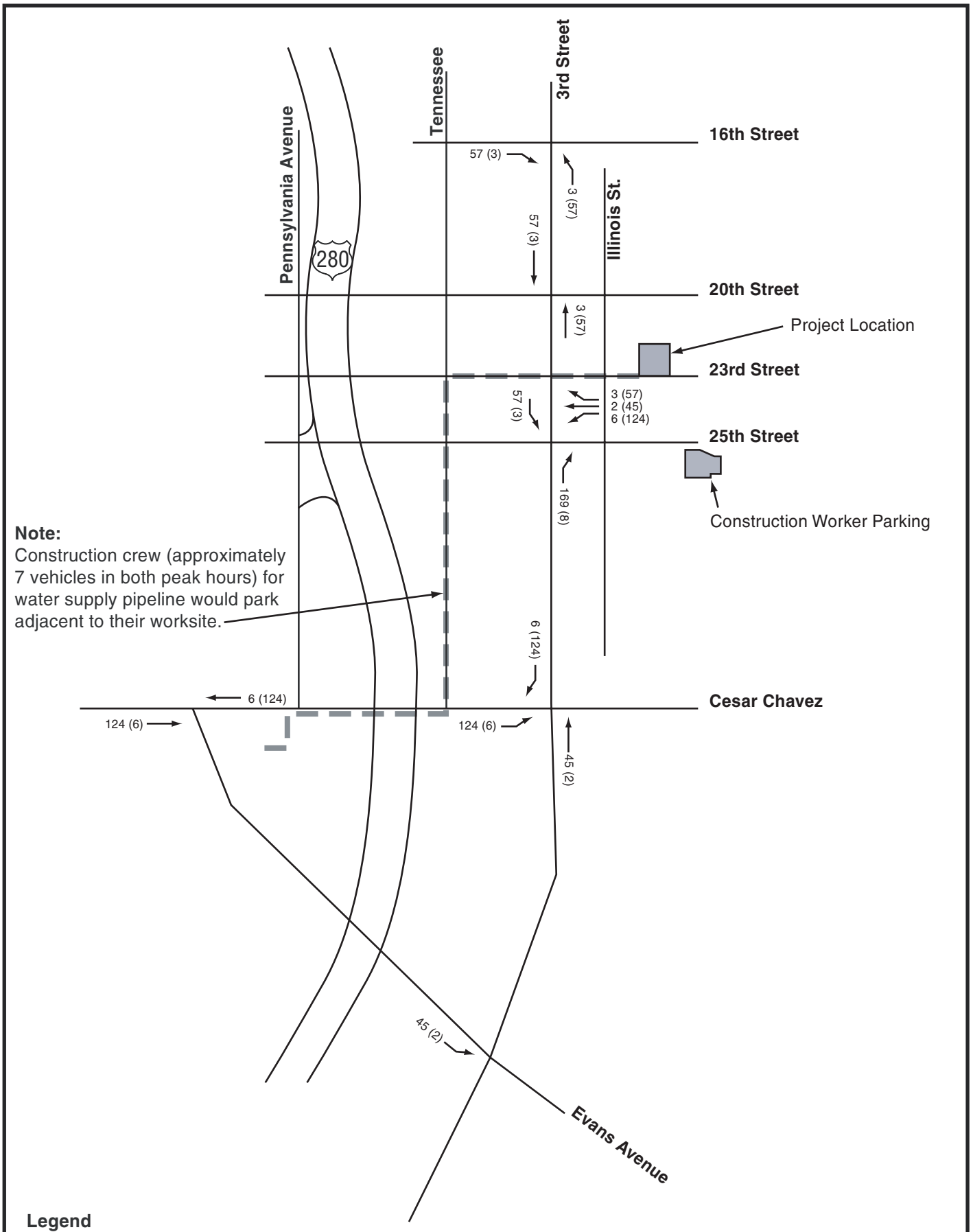


**FIGURE 8.10-6R**
**PROJECT CONSTRUCTION WORKER AM AND PM PEAK HOUR VOLUMES**
SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

D012004005RDD_21 (4/6/04)

CH2MHILL

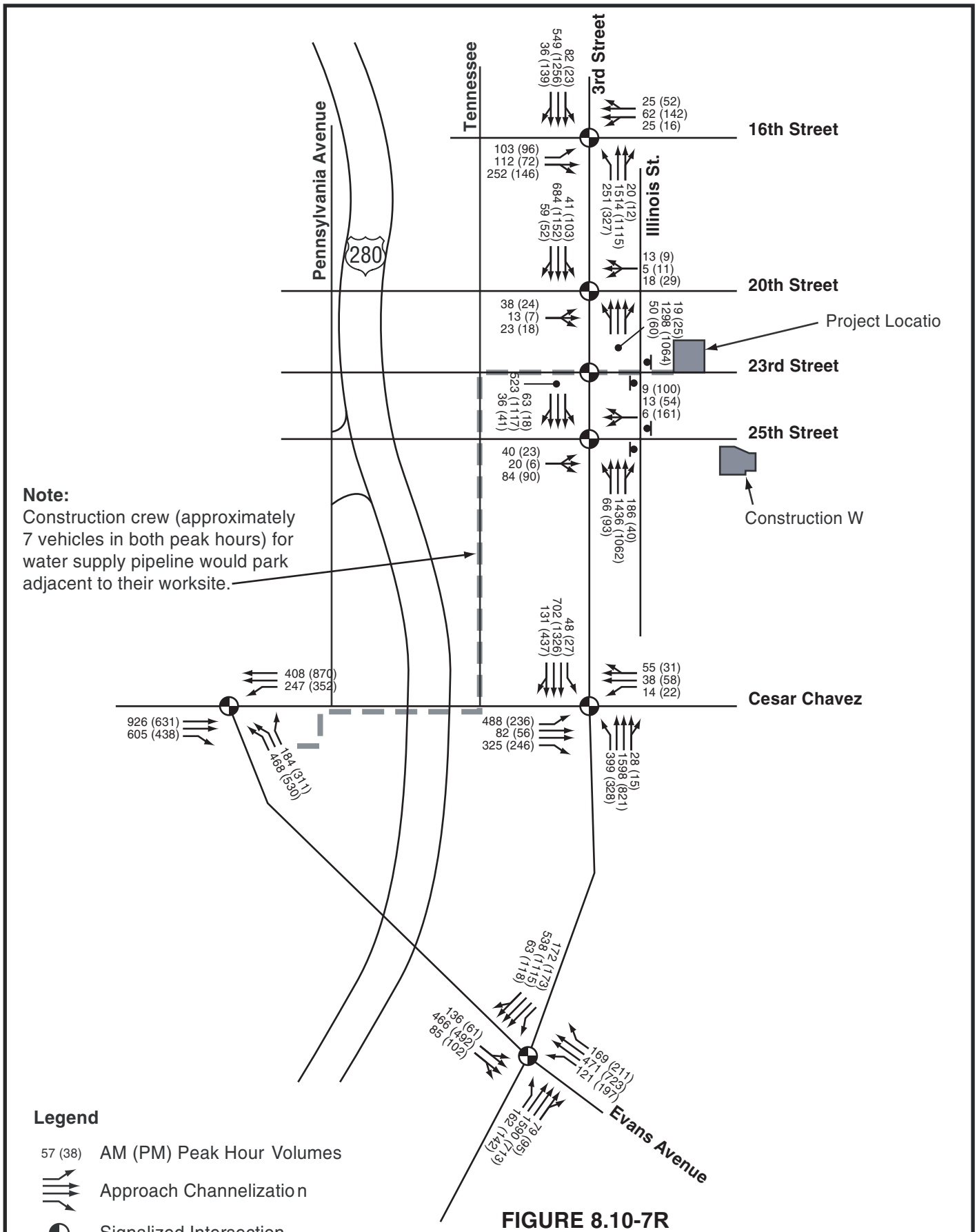


**FIGURE 8.10-7R**
**BASELINE (2005) AND PROJECT CONSTRUCTION WORKER AM AND PM PEAK HOUR VOLUMES, INTERSECTION CHANNELIZATION AND TRAFFIC CONTROL**
SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

D012004005RDD_18 (4/6/04)

CH2MHILL

| DIST | COUNTY | ROUTE | KILOMETER POST TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER

July 1, 2002
PLANS APPROVAL DATE

Greg W. Edwards No. C36386 Exp. 6-30-04 CIVIL

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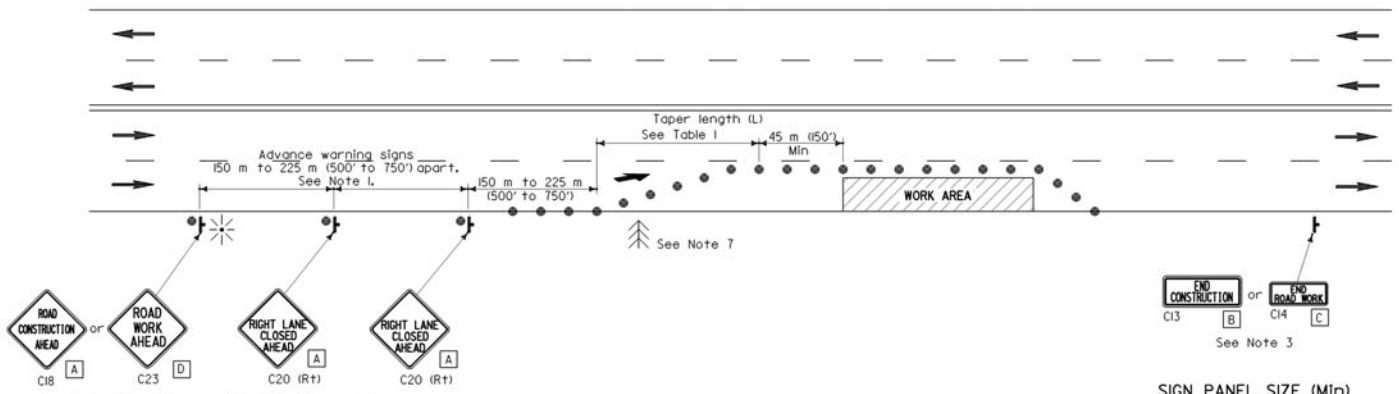
## TYPICAL LANE CLOSURE




### SIGN PANEL SIZE (Min)

- A 914 mm x 914 mm (36" x 36")
- B 1219 mm x 457 mm (48" x 18")
- C 914 mm x 457 mm (36" x 18")
- D 762 mm x 762 mm (30" x 30")

### LEGEND

- Traffic Cone
- Portable Sign
- Direction of Travel
- Flashing Arrow Sign
- Portable Flashing Beacon

### NOTES:

1. Where approach speeds are low, signs may be placed at 90 m (300') spacing, and in urban areas, closer.
2. All advance warning sign installations shall be equipped with flags for daytime closures. Flashing Beacons shall be placed at the locations indicated for nighttime closures.
3. A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
4. If the C18 (or C23) sign would follow within 600 m (2000') of a stationary C18, C23, or C11 "STATE HIGHWAY CONSTRUCTION NEXT _____ MILES", use a C20 sign for the first advance warning sign.
5. All cones used for night lane closures shall be fitted with reflective sleeves as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.
7. Flashing arrow sign shallbe either Type I or Type II.
8. The maximum spacing between cones in a taper shall be approximately as shown in Table I and 15 m (50') maximum spacing on tangent.
9. For approach speeds over 80 km/h (50 mph), use the "Traffic Control System for Lane Closure On Freeways and Expressways" plan for lane closure details and requirements.
10. Where specified in the special provisions, a W11 "LANE REDUCTION SYMBOL" sign is to be used in place of the C20 "RIGHT LANE CLOSED AHEAD" sign.

### TABLE I

| Approach Speed | *Taper Length (L) | *Number of Cones for Taper | Spacing of Cones Along Taper |
|---|---|---|---|
| 0-40 km/h (0-25 mph) | 38m (125') | 6 | 7.5 m (25') ± |
| 40-65 km/h (25-40 mph) | 98 m (320') | 9 | 12 m (40') ± |
| 65-80km/h (40-50 mph) | 183 m (600') | 13 | 15 m (50') ± |
| Over 80 km/h (50 mph) | See Note 9 | | |

* Based on 3.6 (12') wide lane. This column is also appropriate for lane widths Less than 3.6 m (12')

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

These "Standard Plans for Construction of Local Streets and Roads" contain units in two systems of measurement: International System of Units (SI or "metric") and United States Standard Measures shown in the parentheses ( ). The measurements expressed in the two systems are not necessarily equal or interchangeable. See the "Foreword" at the beginning of this publication.

NO SCALE

**FIGURE 8.10-8**
**TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS**

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

CH2MHILL

D012004005RDD_10 (3/1/04)

| DIST | COUNTY | ROUTE | KILOMETER POST TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED CIVIL ENGINEER

July 1, 2002
PLANS APPROVAL DATE

Greg W. Edwards
No. C36386
Exp. 6-30-04
CIVIL
STATE OF CALIFORNIA

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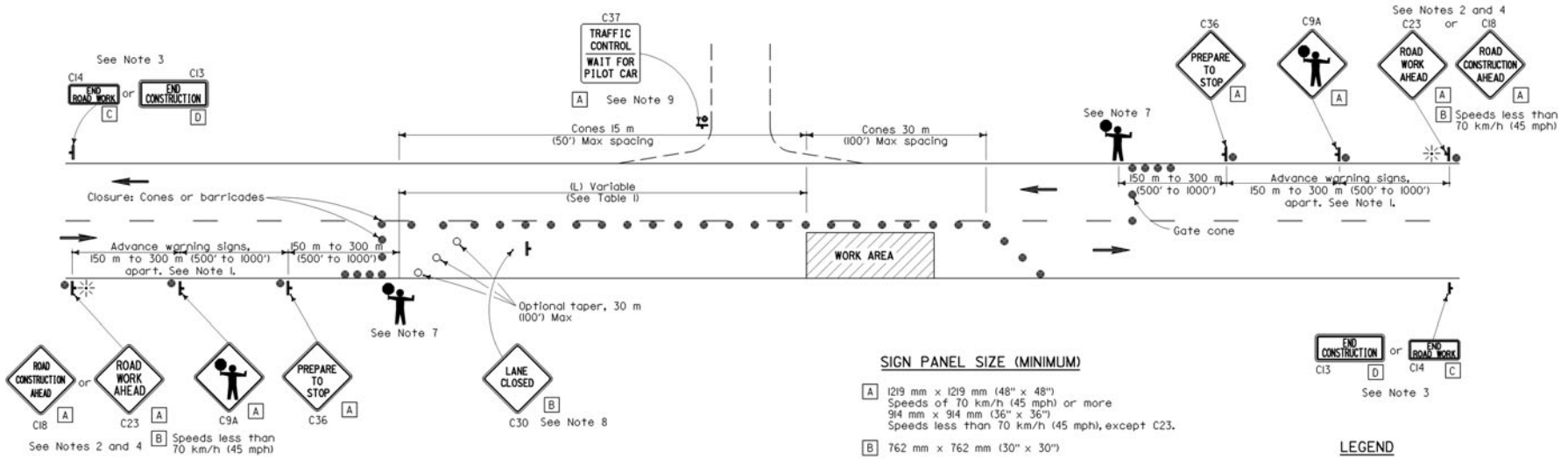
# TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL




## SIGN PANEL SIZE (MINIMUM)

- A 1219 mm x 1219 mm (48" x 48") Speeds of 70 km/h (45 mph) or more; 914 mm x 914 mm (36" x 36") Speeds less than 70 km/h (45 mph), except C23.
- B 762 mm x 762 mm (30" x 30")
- C 914 mm x 457 mm (36" x 18")
- D 1219 mm x 457 mm (48" x 18")

## TABLE I

| Approach Speed | * (L) |
|---|---|
| 0-50 km/h (0-30 mph) | 60 m (200')± |
| 50-70 km/h (30-45 mph) | 90 m (310')± |
| over 70 km/h (45 mph) | 150 m (500')± |

* Increase by 20 percent on sustained downgrades steeper than 3 percent and longer than 1.6 km (one mile).

## LEGEND

- Traffic Cone
- Traffic Cone (Optional Taper)
- Portable Sign
- Direction of Travel
- Portable Flashing Beacon
- Flagger

## NOTES

1. Where approach speeds are low, signs may be placed at 90 m (300') spacing and in urban areas, closer.
2. All advance warning sign installations shall be equipped with flags for daytime closures. Flashing beacons shall be placed at the locations indicated during night lane closures.
3. A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
4. If the C18 (or C23) sign would follow within 600 m (2000') of a stationary C18, C23, or C11 "STATE HIGHWAY CONSTRUCTION NEXT _____ MILES", use a C9A sign for the first advance warning sign.
5. All cones used for night lane closures shall be fitted with reflective sleeves as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.
7. Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. Nighttime flagger station shall be illuminated as provided in the current edition of the "Manual of Traffic Controls" published by the State of California, Department of Transportation. Place a minimum of four cones at 15 m (50') intervals in advance of flagger station as shown.
8. Place C30 "LANE CLOSED" sign at 150 to 300 m (500' to 1000') intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
9. When a pilot car is used, place a C37 "TRAFFIC CONTROL-WAIT FOR PILOT CAR" sign at all intersections within traffic control area. Signs shall be clean and visible at all times.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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NO SCALE

**FIGURE 8.10-9**
**TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS**

SAN FRANCISCO ELECTRIC RELIABILITY PROJECT

CH2MHILL

D012004005RDD_11 (3/1/04)

# Section 2.7 Transmission System Engineering

**Data Adequacy Deficiency –** State project will comply with applicable laws, ordinances, regulations and standards. Appendix B (h)(1)(A).

**Data Adequacy Response –** The City will comply with applicable laws, ordinances, regulations and standards in the design of the transmission system.

**Data Adequacy Deficiency –** State project will comply with applicable laws, ordinances, regulations and standards. Appendix B (h)(2).

**Data Adequacy Response –** The City will comply with applicable laws, ordinances, regulations and standards in the design of the transmission system.

**Data Adequacy Deficiency –** Indicate when the CA ISO approval letter is expected. Appendix B(h)(3).

**Data Adequacy Response –** CAISO, in a letter to the SFPUC on March 12, 2004, noted that the CAISO and PG&E have concluded that an additional system impact study is not required and that the Interconnection Application is complete (letter is attached). In this letter, the CAISO confirms that without Potrero 7, which has been suspended, the project will not result in adverse system impacts. The March 12 letter constitutes a preliminary determination by the CAISO that interconnection of the project will not create adverse system impacts. A final determination to this effect should be made by the CAISO once the updated Facilities Study Report from PG&E, submitted on March 31, 2004, is reviewed. The City expects to receive a letter from the CAISO addressing the updated Facilities Study Report within the next month.

CALIFORNIA ISO

California Independent
System Operator



March 12, 2004

Mr. Ralph Hollenbacher
Manager, Power Development
City and County of San Francisco, SFPUC
1155 Market St., 4th Floor
San Francisco, CA 94103

**Subject: San Francisco Electric Reliability Power Project**
**Generation Interconnection Application - Complete**

Dear Mr. Hollenbacher:

The California ISO and the Pacific Gas and Electric Company (PG&E), acting as the interconnecting Participating Transmission Owner (PTO), have reviewed the Generator Interconnection Application submitted by the City and County of San Francisco (CCSF) to connect the San Francisco Electric Reliability Power Project (SFERPP or the Project) to PG&E's Potrero 115 kV Substation and the California ISO controlled grid. The Project will connect to Potrero Substation via two new 115 kV generator tie lines. The SFERPP will consist of three (3) GE LM6000 gas turbine generators, rated at 50.5 MW each, for a total net output to the grid of 151.5 MW. The expected commercial operation date for the Project has been revised to December 2006, with testing proposed to begin in November 2006.

The Application was received by the ISO on February 25, 2004 and updated within the ten business day review period. Based on the information provided in the Application, the California ISO and PG&E agree that the Application is complete. The effective date of the queue position for the SFERPP is February 25, 2004.

The California ISO and PG&E agree that a System Impact Study (SIS) will not be required, since a SIS was previously performed for the Project with four gas turbine generators. No adverse system impacts were identified in the scenario without Mirant's suspended Potrero Unit 7 Project. The scenario with Potrero Unit 7 resulted in system impacts that would require mitigation, in the event Potrero Unit 7 was built. The site the SFERPP will be built on is where Mirant's Potrero Unit 7 Project was initially proposed to be located.

PG&E will be providing an updated Facilities Study Report for the SFERPP within approximately three weeks to reflect minor changes in the Project and Report, such as the



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reduction in size of the simple cycle plant from four gas turbines to three, and the change in the commercial operation date from June 2005 to December 2006.

Should you have any questions concerning the review of the Application, please contact Donna Jordan at (916) 351- 2339 (djordan@caiso.com) or me at (916) 351- 4464 (jmiller@caiso.com).

Sincerely,

Mohamed Awad, for

Jeffrey Miller
Regional Transmission Manager

cc:

Russell G. Stepp (SFPUC via e-mail: rstepp@sfwater.org)
Ralph Hollenbacher (SFPUC via e-mail: rhollenbacher@sfwater.org)

Kim Whitsel, Manager – Generation Interconnection Services
Pacific Gas & Electric Company
77 Beale St., Mail Code: B13J
San Francisco, CA 94105-1814

John Vardanian (PG&E via e-mail)
Art McAuley (PG&E via e-mail)
Steven Ng (PG&E via e-mail)
Karen Grosse (PG&E via e-mail)

Armando Perez (ISO)
Rich Cashdollar (ISO)
Gary Brown (ISO via e-mail)
Tom French (ISO via e-mail)
Ty Larson (ISO via e-mail)
Tracy Wang (ISO via e-mail)
Vikram Godbole (ISO via e-mail)
ISO Grid Planning (via e-mail)

# Section 2.8 Visual Resources

**Data Adequacy Deficiency** – No monitoring plan has been provided in the visual section to verify the effectiveness of the mitigation for this project. Appendix B(g)(1).

**Data Adequacy Response –** Because project mitigation measures will not include landscaping, the applicant is not proposing a separate mitigation monitoring plan. However, the applicant will be preparing a color treatment plan. The plan will provide that the facility's paint will be inspected on a regular basis and repainted as necessary (typically, a standard CEC Condition of Certification requires a Color Treatment Plan that includes a painting schedule and a section on painting maintenance).

**Data Adequacy Deficiency –** No elevations were provided on a topographic map of existing structures on the site. Only the proposed elevations of new structures are cited in text on pg. 8.11-4, sect. 8.11.2.2. The requirement is for elevations of existing structures. Appendix B(g)(6)(A)(ii).

**Data Adequacy Response –** This regulation does not specify that elevations be provided on a topographic map. The height of the existing Station A building (the largest building currently at the site) was provided in the AFC on page 8.11-4 in Section 8.11.2.3. The elevation of the project site is approximately 26 feet (mean sea level), as indicated in footnote 5 on page 8.11-10. The approximate heights of the remaining three onsite structures are as follows:

- Meter Building (the brick building along Humboldt Street that will become the project's control/administration building): 45 feet high.
- Compressor Building (the brick building that will be removed): 50 feet high.
- Corrugated metal building that will be removed: 40 feet high.

**Data Adequacy Deficiency –** The AFC identifies two key observation points (KOPs). Please explain how these KOPs were selected. Energy Commission staff was not contacted in the selection. The visual section does not indicate that the applicant consulted with community residents who live in close proximity to the proposed project. Please explain which community resident groups, if any, were contacted to help identify visually sensitive areas.

KOP 1 and 2 for this project are somewhat similar to KOPs used for the Potrero Power Plant Unit 7 project (see Potrero KOP 1 and 2). The Potrero AFC also included a KOP 3 (Figure 8.11-9). Potrero's KOP 3 shows the existing project site and surrounding neighborhoods from 25th Street/Indiana Street near I-280. A similar KOP should be considered for the SFERP project because this KOP provides a closer viewpoint to the project site and it represents a different view area. Appendix B(g)(6)(C).

**Data Adequacy Response -** To date, the applicant has met repeatedly with the surrounding community. Four meetings of note include:

- Potrero Neighborhood House on August 28, 2003 (approximately 50 people in attendance)

- San Francisco Department of Public Health, September 4, 2003 (approximately 35 people in attendance)
- Southeast Community Center, September 9, 2003 (approximately 45 people in attendance)
- California College of Arts & Crafts on September 20, 2003 (approximately 35 people in attendance)

At these meetings, the applicant discussed the project in general terms and answered questions. In the general discussion, the applicant specifically talked about the SFERP as being smaller and less bulky than Potrero Unit 7. At those meetings, participants did not address visual impacts. Based on input from the community meetings, the location of the project, which was originally proposed for Pier 70, was shifted to the site that is now being considered.

In selecting the KOPs used for this project, the Potrero Unit 7 AFC and the Final Staff Assessment (including the testimony of Michael Clayton, the CEC visual resources consultant for that project), was reviewed. The locations of KOPs selected for the Unit 7 project were evaluated for their applicability to the SFERP. The Potrero AFC identified 6 KOPs, and the FSA identified 9 KOPs.

Consultants representing the City visited the KOP 1 to 8 locations (all but the San Francisco Bay KOP) to see which KOPs would be appropriate for the SFERP. The intent of the SFERP KOPs was, to the extent possible, to duplicate the KOPs for the Potrero Project, if applicable, because those KOPs had already been endorsed by CEC Staff (via Michael Clayton); therefore, it was believed that further consultation with the CEC regarding KOP selection was not necessary.

Of the 8 KOP locations that were visited, it was determined that two KOPs selected would adequately demonstrate the level of visual resource impact from the SFERP. This is due to (1) the smaller proposed structures associated with SFERP, when compared to the Potrero Project; and (2) the lack of suitable views toward the project site from the other 6 KOPs that were chosen for the Potrero Project. These are discussed below:

The Potrero AFC KOP 1 location was modified for the SFERP because the playground on Potrero Hill where the Potrero photograph was taken no longer exists, and therefore, is not considered as sensitive a view as it was at the time of the Potrero Project submittal to the CEC. The SFERP KOP 2 (Missouri Street at Watchman Way) was chosen to represent a similar, albeit slightly closer, view of the project site.

The Potrero AFC KOP 2 location at 20th Street/Mississippi Street is represented by the SFERP KOP 1, which was taken from 20th Street at the Mississippi Street intersection. The photos appear to be nearly the same scale.

The Potrero AFC KOP 3 location (25th Street/Indiana Street multi-story single-family residences) was visited in December 2003 and the view toward the project site from the 2nd story front landing of that building was included in the SFERP AFC as Figure 8.11-3 (a landscape character photo). This view is described on page 8.11-3 of the SFERP AFC. Generally, when taking photographs for KOPs, attempts are made to take the photos from

publicly accessible locations. It is believed that the Potrero KOP Figure 8.11-9 photo was taken from a higher floor of the same complex, which would require entry into the locked building, and possibly into a private residence. It appears that the photo may have been taken before the residence was occupied. Consultants representing the City for the SFERP elected to not attempt to enter private residences, but instead, to characterize the view of the project site using it as a landscape character photo.

The Potrero AFC KOP 4 location (Hunters Point) was visited, and the open field where the Potrero photograph was taken is now fenced and inaccessible to the public. Photographs were taken showing the view toward the project site at other nearby locations; however, they were not selected to be KOPs because of the distance, the views were mostly obscured by vegetation, and they would not show the project to the extent that the selected photo locations did.

The Potrero AFC KOP 5 area (Bernal Heights) was visited, but the exact location where the photograph was taken was not found. Due to the greater distance to the project site, and lack of available access to areas that would provide a view toward the site, this area was determined not suitable for simulating for SFERP. Bernal Heights Park, located at a higher elevation than the Potrero KOP 5 area (but in the same vicinity), was also visited. A photograph was taken and that view was evaluated, but it was determined that the view was too distant to depict the project features.

The Potrero AFC KOP 6 location was visited [the 21st Century Academy (a school)]. Photographs were taken from this location that nearly duplicated the view shown in the Potrero photo. This location was not selected as a KOP for SFERP because the view was determined to be too distant to depict the project features. In addition, it was determined that the playground area depicted in the photo was not a sensitive viewing location because it was at a lower elevation than the elevation where the photo was taken (an elevated lawn area adjacent to a school building that is not expected to be a high-use public area). The view toward the project site from the playground would be obscured by the school buildings and vegetation.

The Potrero FSA KOP 7 location [SBC Park (identified as Pacific Bell Park in the FSA)] was visited, but photographs were not taken at this location. It was determined that, from ground-level, the project site was not visible, and the elevated view toward the site from within the park would likely be unobstructed, but that viewers' attention and focus would be on the activities occurring within the park, rather than the SFERP located approximately 1.5 miles to the south. Therefore, this location was not determined suitable for a SFERP KOP.

The Potrero FSA KOP 8 (Agua Vista Park) was visited, and the view from the park looking toward the project site was photographed and included in the SFERP AFC as Figure 8.11-2 (landscape character photo LC-1). The park and view are described on pages 8.11-2 and 8.11-3 of the AFC. It was determined that this view did not warrant being a KOP due to the partially obstructed view of the site that it provides.

Based on the field review discussed above, it was determined that the Potrero KOPs 1 and 2 were the appropriate KOP locations for SFERP; therefore, photos from similar locations

were taken for the SFERP AFC. No other locations were identified as appropriate, and the two KOPs that were chosen appeared to be representative of the sensitive views from nearby residential land uses.

We suggest postponing any further visual simulation work until after the public workshops. At that time, if community members express concerns about particular views that they feel are not adequately represented by the two simulations that have been done, additional KOP locations could be researched, and if determined appropriate, simulations could be prepared.

# Section 2.9 Waste Management

**Data Adequacy Deficiency –** A reference to the Phase I and II ESAs prepared for the Mirant Unit 7 proceeding is on page 8.13-8, but these ESAs are not included. The Phase I ESA should be provided as part of the AFC. Appendix B(g)(12)(A).

**Data Adequacy Response –** Five copies of the Pacific Gas and Electric Company, Phase I Environmental Site Assessment, Potrero Power Plant, City and County of San Francisco, California, prepared by Camp Dresser and McKee, are being submitted to the California Energy Commission with this Data Adequacy supplement, as Attachment WM-DA-1.

# Section 2.10 Water Resources

**Data Adequacy Deficiency—** Please provide the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation. Include the requirements of permits to be obtained and BMPs to be utilized. Please provide all the information required for the construction laydown area. Please provide all the information required for the permitting of a wastewater treatment facility.

**Data Adequacy Response—** (see below)

### Measures to Mitigate Adverse Environmental Impacts

#### Plant Site

As summarized in Section 8.14.6 of the AFC, there would be no significant adverse environmental impacts to water resources, and therefore, detailed mitigation measures are not proposed. Under Section 8.15, Mitigation Measures, four project elements are listed that contribute to the determination of less-than-significant effects. Additional discussion of these project elements is provided below.

- With regard to the diversion of wastewater from the combined sewer system, this is a key element of the project and will not require compliance and effectiveness monitoring. The project will not operate (except under emergency conditions) unless the diversion of wastewater occurs.

- With regard to compliance with Article 4.1 of the San Francisco Public Works Code, the SFERP would be subject to the requirements of a Class I discharge permit as discussed in Section 8.14.3.3.1. A detailed sampling, monitoring, and reporting program will be required to demonstrate compliance with the waste discharge limitations discussed in Section 8.14.3.3.1. The City would enforce compliance with these requirements based on the results of the monitoring program. There is no effectiveness component as the project would either meet the numeric limitations or not.

- With regard to compliance with the Reclaimed Water Ordinance and the installation of dual plumbing, this would be addressed through simple compliance monitoring by the City and the CEC.

- With regard to the Erosion and Sediment Control Plan, site construction will be subject to periodic inspection by the City as discussed in Section 8.14.8. It is important to remember that discharge to the combined sewer system effectively provides advanced treatment to storm water discharges at the City's Southeast Water Pollution Control Plant (SEWPCP). City inspections would help ensure that adverse effects to surface water quality – discharge of constituents that cannot be effectively treated at the SEWPCP – are minimized.

  The Erosion and Sediment Control Plan will be completed prior to the initiation of construction activity. The design and placement of the structural BMPs will be specified during the final engineering design phase of the project. The final water quality pollution prevention details will be prepared by the construction contractor. This is

standard industry practice, and helps to ensure that construction staff are actively involved in the identification of potential sources of pollution and in the development and execution of the plans. The final plans will contain site-specific information related to potential sources of pollution and specific BMPs that will be implemented to prevent the release of contamination, along with contingency plans to promptly address any accidental release and ensure proper reporting.

### Laydown Area

The 10-acre construction laydown area would be located from about 100 feet west of Maryland Street to about 150 east of Massachusetts Street, and between 25th Street and 200 feet north of Cesar Chavez Street (see Figure 2-1). The site, under the control of the Port Authority, is a previously disturbed, relatively flat, vacant parcel of land. A concrete mixing plant, temporary offices and shipping containers once occupied the site. No grading will be necessary prior to its use as the construction laydown area, since the site is flat and currently drains to either the Port's storm water system (which drains to the Bay) or percolates into the ground. However, the site will be graveled to provide all weather use and further minimize soil erosion potential. Once construction is completed, the gravel will either be removed from the site or left in place at the discretion of the Port Authority.

Since the erosion characteristics of the soil type at the laydown area are minimal, very little soil erosion is expected during the construction period. In addition to the gravel surface, other erosion control practices, if necessary, will be included in the Erosion and Sediment Control Plan to be prepared for the entirety of SFERP construction (see Section 8.14.6.1). Monitoring will involve inspections to ensure that the BMPs described in the Erosion and Sediment Control Plan are properly implemented and effective. Because a portion of the site drains to the Bay, storm water runoff is regulated under an existing NPDES permit. However, additional regulatory compliance may be required for storm water quality control because of its temporary construction use. Pursuant to the statewide General Permit for Storm Water Discharges Associated with Construction Activity, the City would submit a Notice of Intent to the State Water Resources Control Board and prepare a Storm Water Pollution Prevention Plan to be maintained at the construction site. [It is likely that the Erosion and Sediment Control Plan will be used as the Storm Water Pollution Prevention Plan.] Note that the NPDES process is not required for most of the SFERP project area because storm water drains into the City's combined sewer system. It will, however, be a requirement related to the construction laydown area because of its drainage characteristics.

### Permitting of a Wastewater Treatment Facility

Section 13523 of the California Water Code provides that a regional board, after consultation with and receipt of recommendations from the State Department of Health Services (DHS), shall prescribe water reclamation requirements for water that is used as recycled water.

An onsite water treatment/recycling facility, such as that included in the SFERP, is ordinarily permitted by the Regional Water Quality Control Board (RWQCB) – San Francisco Bay Region under their Water Reuse Permit Program. As part of that program, the RWQCB authorizes wastewater reuse by producers, distributors and users throughout the San Francisco Bay Region. This permitting process is consistent with the requirements of the California Code of Regulations, Title 22, Division 4 (Environmental Health). An applicant

may apply for an individual water reuse permit or a general water reuse permit (General Water Reuse Order 96-011).

The onsite water treatment/recycling facility includes an odor control system. The City believes that an odor control system, such as that included in the water treatment system of the SFERP, is not subject to Bay Area Air Quality Management District (BAAQMD) permit requirements pursuant to District Rule 113.2.4. However, the City will confirm that conclusion with the BAAQMD and, if required, will file an application for an Authority to Construct the odor control system.

A building permit from the City's Department of Building Inspections (DBI) is not required for the construction of a water treatment/recycling facility[4].

**Data Adequacy Deficiency –** Please provide the waste discharge requirements and the Class I discharge permit requirements.

**Data Adequacy Response –** The City's waste discharge requirements for the SEWPCP for the Class I discharge permit requirements are discussed in Section 8.14.3.3.1. The permit requirements are established in Article 4.1 of the San Francisco Public Works Code. Additional information pertaining to the Class I discharge permit is found in San Francisco Department of Public Works Order No. 158170.

Five copies each of the City's waste discharge requirements for the SEWPCP, Article 4.1 of the San Francisco Public Works Code, and the San Francisco Department of Public Works Order No. 158170 are being submitted to the California Energy Commission with this Data Adequacy supplement, as Attachment WR-DA-1.

**Data Adequacy Deficiency –** Please provide information on the ground water bodies and related geologic structures that may be encountered during construction, include volume estimates. Specifically any groundwater contamination.

**Data Adequacy Response –** Local geology and stratigraphy is presented in Section 8.15.3. Groundwater bodies are briefly discussed in Section 8.14.4.4, as follows.

> Groundwater underlying the project area is part of the Islais Creek groundwater basin. This basin covers approximately 5,600 acres that historically were part of the Islais Creek drainage area, extending roughly from Twin Peaks to the Bay. The alluvial thickness ranges from zero feet where bedrock is exposed to 200 feet near the Bay. Unconsolidated sediments are made up of a combination of Colma Formation sediments and undifferentiated alluvial deposits. Bay mud occurs in a large portion of the basin, and artificial fill has been placed over the Bay margin. In general, the water table is shallow and the groundwater flow direction is from the bedrock ridges towards the valley center and then toward the Bay (San Francisco Planning Department, 1997).
>
> At the project site, depth to groundwater ranges between 3.5 feet below ground surface (bgs) in the central part of the site to up to 21 feet bgs adjacent to the Bay. It appears that the fill and the fractured bedrock act as a single water-bearing unit. On the eastern side

[4] Under certain circumstances, the SFPUC may not have to obtain City permits for certain activities authorized under the Charter but it would be required to meet all the applicable requirements for permitting.

of the site, the fill is underlain by a thick sequence of Bay Mud that inhibits vertical movement of groundwater (Geomatrix, 1999, as cited in Mirant, 2000).

The unusual groundwater characteristics at the SFERP site reflect that the landside portion of the site is located on fractured bedrock and consolidated sediments whereas the eastern portion of the site is located on artificial fill placed over Bay mud.

Volume estimates for groundwater that might be encountered during construction are not available. However, it is likely that groundwater will be encountered during some construction activities, including installation of the source water pipeline using open-trench and microtunneling construction. Specific information on groundwater contamination has not been developed for all project components, but some prior investigations have been performed at the project site (see, e.g., Camp, Dresser & McKee, 1997; Fluor-Daniel GTI, 1998; and Geomatrix, 2000). As discussed in Section 8.13.3, some contamination is likely based on the number of past and present toxic sites and the industrial development of the area. The type of groundwater contamination that could be present at the SFERP site is summarized below based on the above-referenced studies.

- Camp, Dresser & McKee concluded that petroleum products, polychlorinated biphenyls, and hazardous chemicals were likely used in historical operations within the SFERP site, and that there is a potential for soil and groundwater impacts. The Department of Toxic Substances Control and the Regional Water Quality Control Board (as lead agency) are currently overseeing the site with respect to the environmental issues at the entire 27-acre site.

- Fluor Daniel reported that groundwater beneath a portion of the SFERP project area appears to be impacted at certain locations. Flour Daniel detected compounds including benzene, total petroleum hydrocarbons, polyaromatic hydrocarbons, and cyanide. Fluor Daniel categorized the remediation issues for these areas as cyanide in groundwater with bedrock, total petroleum hydrocarbons in groundwater, and polyaromatic hydrocarbons and metals in near surface soils.

- Geomatrix indicated that groundwater on the site has been impacted. Cyanide was reported at varying concentrations, and Geomatrix surmised that the extent of cyanide is stable, would not increase in the future and consists of a low overall mass. Geomatrix also suggested that migration to the Bay above regulatory limits would be unlikely. Total extractable petroleum hydrocarbons, polynuclear aromatic hydrocarbons, and BTEX (Benzene-Toluene-Ethylbenzene-Xylene) were reported in groundwater at low concentrations in this area. Geomatrix recommended no further investigation or cleanup of TPH, PNAs, or BTEX in groundwater.

**Data Adequacy Deficiency—** Please provide a map of the 100-year flood plain and tsunami run-up zones and a description of the 100-year flood plain.

**Data Adequacy Response—** A map of the 100-year flood plain is not available from the Federal Emergency Management Agency. Information in the AFC regarding potential flooding was developed based on studies performed for a previous application on the project site and cited in the Potrero Power Plant, Unit 7 AFC (cited in the SFERP AFC as Mirant, 2000). A more detailed description of the findings of the prior study, as summarized

in Mirant (2000), is provided below. This description also includes additional information on tsunamis, which supplements the text in the AFC.

> "A review of the Federal Emergency Management Agency (FEMA) records indicates that San Francisco is not listed [as] a Special Flood Hazard Area (SFEC, 1994). Additionally, the City and County of San Francisco are not part of FEMA's National Flood Insurance Program.
>
> "During the process of preparing an AFC for a power plant site in the Hunters Point/India Basin area, the San Francisco Energy Company (SFEC, 1994) determined from a U.S. Army Corps of Engineers Tidal Stage vs. Frequency Study (1984), that the 100-year tide level in the area was 6.7 feet National Geodetic Vertical Datum (NGVD). Based on the wind-generated wave runup calculations reported in SFEC (1994) for a site near Hunters Point (based on an effective fetch of 5.7 miles and annual peak wind speeds from San Francisco International Airport). [sic] The calculated maximum runup, including the maximum 100-year tide, wind runup, wind setup and mean higher high water (MHHW) tide level, is 13.0 feet NGVD (16.1 feet mean lower low water [MLLW] or 4.4 feet San Francisco datum [SFD]).
>
> "Because of its location, it has been reported (SFEC, 1994) that a tsunami entering San Francisco Bay has the potential to cause runup at Potrero Point. Runup for the 100-year tsunami recurrence-interval is estimated to be 5.5 feet. If the 100-year tsunami event occurred at the same time as the 100-year storm, the total runup would be 18.5 feet NGVD (21.6 feet MLLW or 9.9 feet SFD), which would not present a problem because the proposed project site is at an elevation of 33.6 feet NGVD (25 feet SFD)." (Potrero Power Plant Unit 7 AFC (00-AFC-4), pp. 8.14-10 to 8.14-11)

**References:**

SFEC (San Francisco Energy Company) 1994. *Application for Certification*. October 1994.

U.S. Army Corps of Engineers, 1984. *San Francisco Tidal Stage vs. Frequency Study.*

**Data Adequacy Deficiency –** Please provide the physical and chemical characteristics of the source water and discharge water for the different waste streams.

**Data Adequacy Response –** The physical and chemical characteristics of the SFERP's combined wastewater discharges into the City's combined system is presented in Tables 8.14-7 and 8.14-8 of the AFC. This information is based on the characteristics of the source water (i.e., untreated process water diverted at the new pumping station to be constructed on Marin Street) and the processes at the SFERP. The amount of source water to be used is presented in Table 8.14-6 of the AFC. The source water quality has been estimated by the City based on wastewater monitoring in the collection system.

The untreated process water will be treated to Title 22 standards at the proposed recycled water facility. The following Table 8.14-10 presents the estimated concentration of key process water constituents following treatment at the recycled water facility. Water quality at other points in the power plant process has not been estimated.

**TABLE 8.14-10**
Estimated Recycled Water Quality

| Constituent | Reason for Inclusion of Parameter | Recycled Water (mg/L except as noted) |
|---|---|---|
| 4,4 DDE | NPDES, TMDL | 0.003 µg/L |
| Alkalinity-Bicarbonate | PP Process | - |
| Alkalinity-Total | PP Process | 185 |
| Aluminum | N/A | - |
| Ammonia | N/A | <5 |
| Arsenic | NPDES | 2.0 µg/L |
| Barium | NPDES | - |
| Biological Oxygen Demand | NPDES | <10 |
| Boron | N/A | - |
| Cadmium | NPDES & Title 22 | 0.3 µg/L |
| Chemical Oxygen Demand | N/A | <50 |
| Chloride | PP Process | 150 |
| Chromium | NPDES | 1.3 µg/L |
| Copper | NPDES | 14.6 µg/L |
| Dieldrin | TMDL | 0.002 µg/L |
| Dissolved sulfides | PP Process | - |
| Fluoride | N/A | - |
| Hardness-Calcium | PP Process | - |
| Hardness-Magnesium | PP Process | - |
| Hardness-Total | PP Process | - |
| Hydrocarbon oil and grease | Class I Permit | <5 |
| Iron | N/A | - |
| Lead | NPDES | 2.5 µg/L |
| Manganese | N/A | - |
| Mercury | NPDES, Title 22, TMDL | 0.02 µg/L |
| Molybdenum | N/A | - |
| Nickel | NPDES | 3.9 µg/L |
| Nitrate Nitrogen | N/A | 15 |
| pH, pH units | NPDES & Class I Permit | 6.0 - 9.0 |
| Polynuclear aromatic hydrocarbons (PAHs) | NPDES, TMDL | 0.16 µg/L |

**TABLE 8.14-10**
Estimated Recycled Water Quality

| Constituent | Reason for Inclusion of Parameter | Recycled Water (mg/L except as noted) |
|---|---|---|
| Polychlorinated biphenyls | Title 22 | 0.10 µg/L |
| Potassium | N/A | - |
| Selenium | NPDES, Title 22 | 0.5 µg/L |
| Silica | PP Process | 13 |
| Silver | NPDES | 1.0 µg/L |
| Sodium | PP Process | - |
| Specific Conductance, umhos/cm | PP Process | - |
| Sulfate | PP Process | 120 |
| Total Dissolved Solids | PP Process | 400 |
| Total recoverable oil and grease | NPDES | <5 |
| Total Suspended Solids | NPDES | <3 |
| Turbidity, NTU | N/A | 0.2 |
| Zinc | NPDES | 61.8 µg/L |
| Temperature | N/A | 20 °C |

PP Process = power plant process

**Data Adequacy Deficiency –** Please provide the average and maximum daily and annual water demand and waste water discharge for both the construction and operation phases of the project including the requirements of the wastewater treatment plant. Maximum water use discrepancies exist between section 2.2.7.1 and Table 8.14-6.

**Data Adequacy Response –** An updated water usage table is presented in table 8.14-11 below, which updates Table 8.14-6 and data in Section 2.2.7.1.

**TABLE 8.14-11**
Recycled Water Use at SFERP (million gallons)

| | CCSF Sewage to Recycle Plant | Power Production Recycled Water | Return to CCSF Combined Sewer | | |
|---|---|---|---|---|---|
| | | | Recycle Plant | Power Plant | Combined |
| **Power Production Operation** | | | | | |
| Average Daily Usage | 0.50 | 0.34 | 0.16 | 0.08 | 0.24 |
| Maximum Daily Usage | 0.59 | 0.43 | 0.16 | 0.10 | 0.26 |
| Annual demand | 83.76 | 57.36 | 26.40 | 13.44 | 39.84 |

**TABLE 8.14-11**
Recycled Water Use at SFERP (million gallons)

| | CCSF Sewage to Recycle Plant | Power Production Recycled Water | Return to CCSF Combined Sewer | | |
|---|---|---|---|---|---|
| | | | Recycle Plant | Power Plant | Combined |
| **Operation Only of Recycle Water Plant** | | | | | |
| Average Daily Usage | 0.15 | | 0.15 | | 0.15 |
| Maximum Daily Usage | 0.30 | | 0.30 | | 0.30 |
| Annual demand | 29.77 | | 29.77 | | 29.77 |
| **Combined Water Usage** | | | | | |
| Annual demand | 113.53 | 57.36 | 56.17 | 13.44 | 69.61 |

Notes:
1. Power production operation is for 12,000 turbine-hours per year
2. When the facility is not producing power, the recycle water plant will still operate at reduced loading.

During demolition and construction, water will be used for dust control, soil compaction, concrete curing, and hydrostatic testing. The average daily water demand for demolition and construction is estimated to be 10,000 gallons per day. The peak daily water demand for construction is estimated to be 50,000 gallons/day when filling tanks and pipes for hydrostatic testing. The annual water demand for construction is estimated to be approximately 2.6 million gallons.

**Data Adequacy Deficiency -** Please provide a detailed description of the wastewater treatment facility.

**Data Adequacy Response –** The wastewater treatment facility is summarized in Section 2.2.7.3 of the AFC. Additional information, based on conceptual design, is presented below.

The SFERP recycled water plant will be housed in a pre-engineered building. Preliminary treatment of the wastewater will be accomplished by use of a traveling band screen constructed of stainless steel perforated plate. Solids will be sluiced from the screen by a water wash system and this stream will then be returned to the sanitary sewer system located in 23rd Street. Odors will be removed through an activated carbon adsorption system and vented to the atmosphere. Up to 15 air changes per hour of building ventilation will be incorporated to ensure the proper indoor environment.

Removal of organic carbon and ammonia will be accomplished by an activated sludge system with a hydraulic detention time of approximately 6 hours, whereas the addition of a coagulant, ferric chloride or aluminum sulfate, will be necessary to remove phosphorus. Removal of suspended solids will be achieved through a combination of sedimentation and filtration. Finally, inactivation of pathogenic organisms will occur by either injection of sodium hypochlorite or exposure to ultraviolet radiation. The recycled water will then be pumped to the recycled water storage tank for use within the plant for all non-potable water applications. A waste stream containing the waste activated sludge solids will be sent to the sanitary sewer located in 23rd Street.

Chemicals that may be used in the treatment plant include sodium hypochlorite, citric acid, sodium hydroxide, ferric chloride, aluminum sulfate and sodium bisulfite. In general, there will be spare blowers for reliability for the air supply systems, and the treatment plant will be divided into enough modules so that sufficient operating capacity exists during preventative maintenance periods.

During the detailed design phase after all design parameters are finalized, the decision will be made whether to use a packaged approach to the plant or whether a site-specific design is required.

The expected full flow capacity of the recycled water system will be 0.6 million gallons per day (mgd), or 420 gallons per minute (gpm), when operating in a full capacity mode. Since the SFERP is a peaking plant, the demand for recycled water will be very unpredictable. To accommodate this demand uncertainty, the recycled water treatment plant will often be operated in a "turndown" mode and the biological unit process will be able to operate in full recycle mode without production of reclaimed water for up to 24 hours. There is no guarantee that at any time the plant will not be called upon to operate at full output at the maximum recycled water consumption rate of 296 gallons per minute (gpm). This demand will deplete the recycled water tank in less than 17 hours (or 22 hours at the average demand of 240 gpm). Therefore, the operating output of the recycled water treatment plant will vary depending upon the current plant demand as well as the expected recycled water demand over the next several days or weeks. Under normal circumstances, the recycled water plant will always be operating, only the output would vary from 0 to 100 percent of capacity.

**Data Adequacy Deficiency -** Please provide the drainage facilities and design criteria.

**Data Adequacy Response –** Storm drainage from the SFERP site will drain to the City's combined sewer system. A preliminary Grading and Drainage Plan is attached (see Drawing HHWP-C-01), showing approximate drainage patterns. Because storm drainage will be discharged to the combined sewer system, detailed onsite control and treatment facilities are not planned (storm drainage will receive full municipal treatment at the City's SEWPCP). Although not specified in the preliminary plans, a vault will be installed at the inlet point to screen floatable material. Design of the drainage features is based on estimated storm water volumes presented in Section 8.14.5.2.3 of the AFC.

**Data Adequacy Deficiency—** Please provide information on the effects of construction dewater operations.

**Data Adequacy Response—** Information on the effects of construction dewatering operations is presented in Section 8.14.5.2.4 of the AFC. As discussed above, the quantity of groundwater that might be encountered and the quality of the groundwater are not known. Some contamination is likely based on the number of past and present toxic sites and the industrial development of the area (see above discussion of prior investigations). As discussed in Section 8.14.5.2.4, any groundwater produced from dewatering would require a permit from the City for discharge to the combined sewer system. Because of the potential for some contamination to be present, it is likely that the City would require testing prior to discharge.

**Data Adequacy Deficiency –** Please include LORS for the permitting of a wastewater treatment facility.

**Data Adequacy Response –** The description of LORS for the wastewater facility was presented above (first Water Resources data adequacy response, Permitting of a Wastewater Treatment Facility).

A building permit from the City's Department of Building Inspections (DBI) is not required for the construction of a water treatment/recycling facility[5].

**Data Adequacy Deficiency -** Please include agencies related to the wastewater treatment facility.

**Data Adequacy Response –** Permitting agencies involved with the onsite recycling facility are included in the revised Table 8.14-9R.

**TABLE 8.14-9R**
Water Quality Permits Required for SFERP

| Permit | Schedule | Agency |
|---|---|---|
| Water Reuse Permit Program | 60-90 days prior to construction | California Regional Water Quality Control Board – San Francisco Bay Region<br><br>1515 Clay Street, Suite 1400<br>Oakland, CA 94612 |
| Authority to Construct/Permit to Operate | 180 days prior to construction | Bay Area Air Quality Management District<br><br>939 Ellis Street<br>San Francisco, CA 94109 |
| San Francisco Class I Industrial Discharge Permit, Construction dewatering permit | Minimum of 90 days prior to the commencement of the discharge | San Francisco Public Utilities Commission<br>Bureau of Environmental Regulation and Management<br>3801 Third Street, Suite 600<br>San Francisco, CA 94124<br><br>Contact: Tommy Lee, Division Engineer, Environmental Regulation and Management<br>(415) 695-1321 |

**Data Adequacy Deficiency -** Please update this section with information requested above [conformity of project with LORS related to the water recycling facility].

**Data Adequacy Response –** The SFERP will comply with the requirements of Title 22 of the California Code of Regulations regarding recycled water quality, as implemented by the Department of Health Services and the Regional Water Quality Control Board's Water Reuse Permit Program. Compliance with the narrative and numeric standards of General Water Reuse Order 96-011 will be established through the sampling, testing, and reporting program required by the Order.

[5] Under certain circumstances, the SFPUC may not have to obtain City permits for certain activities authorized under the Charter but it would be required to meet all the applicable requirements for permitting.

Compliance with the requirements of the Bay Area Air Quality Management District with regard to the odor control system is discussed in Subsection 8.1 of the AFC, Air Quality (see Section 2.1 of this Data Adequacy Supplement). At this time, it is not expected that a permit will be required. If a permit is required, compliance will be addressed as part of the *Authority to Construct/Permit to Operate* permit process.

**Data Adequacy Deficiency -** Please provide the name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for each agency related to the wastewater treatment facility.

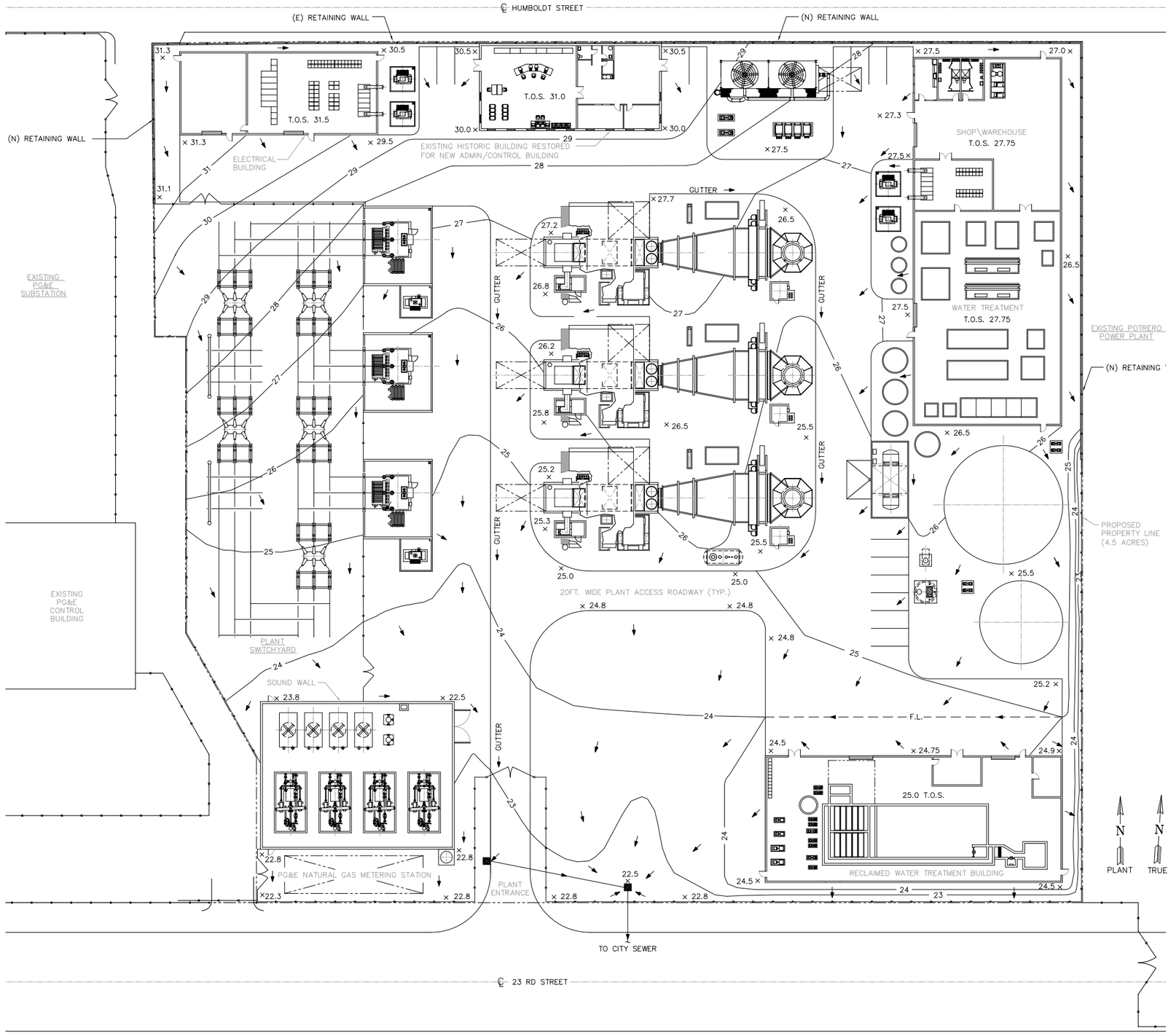
**Data Adequacy Response –** Officials within each agency who will serve as a contract person for each agency related to the wastewater treatment facility are identified in Table 8.14-12 below.

**TABLE 8.14-12**
Agencies and Agency Contacts for SFERP Water Treatment Plant

| Agency | Contact/Title | Phone Number | Address |
|---|---|---|---|
| California Regional Water Quality Control Board – San Francisco Bay Region | Richard Condit | 510-622-2338 | 1515 Clay Street, Suite 1400<br>Oakland, CA 94612 |
| Bay Area Air Quality Management District | Bob Nishimura, Engineering Services Division | 415-749-4679 | 939 Ellis Street<br>San Francisco, CA 94109 |

## LEGEND:

| | |
|---|---|
| 25 | CONTROL LINE, F7, A.S.L., FEET |
| → | DRAINAGE FLOW DIRECTION. |
| ■ | STORM WATER CATCH BASIN AND DRAIN LINE |
| F.L. | FLOW LINE |
| ×27.5 | SPOT ELEVATION, FEET |




**SITE GRADING AND DRAINAGE**
SCALE: 1"=20'-0"

GRAPHIC SCALE
1" = 20'-0"
0' 10' 20' 30' 40' 50' 60'

| SYMBOL | DATE | REVISION DESCRIPTION | DRAWN | APP'D |
|---|---|---|---|---|
| A | 2-16-04 | PRELIMINARY ISSUE FOR REVIEW | | |


PB Power, Inc.
A Parsons Brinckerhoff Company
303 SECOND STREET, SUITE 700 NORTH, SAN FRANCISCO, CALIFORNIA 94107


X-Ref: NONE

SAN FRANCISCO PUBLIC UTILITIES COMMISSION
SAN FRANCISCO, CALIFORNIA

SITE GRADING AND DRAINAGE

| | | | |
|---|---|---|---|
| DR. JJB/SK | APPROVED DATE | DRAWING NO. | REV |
| DES. MG/JJB | | C1 | A |
| CHK. SB | PRINCIPAL IN CHARGE DATE | SHEET OF | |

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